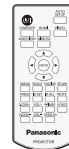
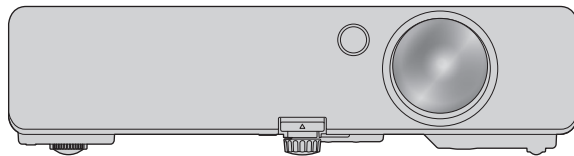


## Operating Instructions Functional Manual

LCD Projector Commercial Use

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Model No. **PT-SW280A**  
**PT-SX320A**  
**PT-SX300A**



Thank you for purchasing this Panasonic product.

- Before operating this product, please read the instructions carefully and save this manual for future use.
- Before using this product, be sure to read “Read this first!” (➡ pages 4 to 8).

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## Read this first!

**WARNING:** THIS APPARATUS MUST BE EARTHED.

**WARNING:** To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.

**WARNING:**

1. Remove the plug from the mains socket when this unit is not in use for a prolonged period of time.
2. To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.
3. Do not remove the earthing pin on the mains plug. This apparatus is equipped with a three prong earthing-type mains plug. This plug will only fit an earthing-type mains socket. This is a safety feature. If you are unable to insert the plug into the mains socket, contact an electrician. Do not defeat the purpose of the earthing plug.

**WARNING:**

This equipment is compliant with Class B of CISPR32. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**WARNING:** RISK OF ELECTRIC SHOCK. DON'T OPEN



Indicated on the projector



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**WARNING:** TURN THE POWER OFF AND DISCONNECT THE POWER PLUG FROM THE WALL OUTLET BEFORE REPLACING THE LAMP UNIT.

**CAUTION:** To assure continued compliance, follow the attached installation instructions. This includes using the provided power cord and shielded interface cables when connecting to computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user’s authority to operate this device.

**WARNING:**

■ **POWER**

**The wall outlet or the circuit breaker shall be installed near the equipment and shall be easily accessible when problems occur. If the following problems occur, cut off the power supply immediately.**

Continued use of the projector in these conditions will result in fire or electric shock.

- If foreign objects or water get inside the projector, cut off the power supply.
- If the projector is dropped or the cabinet is broken, cut off the power supply.
- If you notice smoke, strange smells or noise coming from the projector, cut off the power supply.

Please contact an Authorized Service Center for repairs, and do not attempt to repair the projector yourself.

**During a thunderstorm, do not touch the projector or the cable.**

Electric shocks can result.

**Do not do anything that might damage the power cord or the power plug.**

If the power cord is used while damaged, electric shocks, short-circuits or fire will result.

- Do not damage the power cord, make any modifications to it, place it near any hot objects, bend it excessively, twist it, pull it, place heavy objects on top of it or wrap it into a bundle.

Ask an Authorized Service Center to carry out any repairs to the power cord that might be necessary.

**Completely insert the power plug into the wall outlet and the power connector into the projector terminal.**

If the plug is not inserted correctly, electric shocks or overheating will result.

- Do not use plugs which are damaged or wall outlets which are coming loose from the wall.

**Do not use anything other than the provided power cord.**

Failure to observe this will result in electric shocks or fire. Please note that if you do not use the provided power cord to ground the device on the side of the outlet, this may result in electric shocks.

**Clean the power plug regularly to prevent it from becoming covered in dust.**

Failure to observe this will cause a fire.

- If dust builds up on the power plug, the resulting humidity can damage the insulation.
- If not using the projector for an extended period of time, pull the power plug out from the wall outlet.

Pull the power plug out from the wall outlet and wipe it with a dry cloth regularly.

**Do not handle the power plug and power connector with wet hands.**

Failure to observe this will result in electric shocks.

**Do not overload the wall outlet.**

If the power supply is overloaded (ex., by using too many adapters), overheating may occur and fire will result.

■ **ON USE/INSTALLATION**

**Do not place the projector on soft materials such as carpets or sponge mats.**

Doing so will cause the projector to overheat, which can cause burns, fire or damage to the projector.

**Do not set up the projector in humid or dusty places or in places where the projector may come into contact with oily smoke or steam.**

Using the projector under such conditions will result in fire, electric shocks or deterioration of components.

Deterioration of components (such as ceiling mount brackets) may cause the projector which is mounted on the ceiling to fall down.

**Do not install this projector in a place which is not strong enough to take the full weight of the projector or on top of a surface which is sloped or unstable.**

Failure to observe this will cause projector to fall down or tip over the projector, and severe injury or damage could result.

**Do not cover the air intake/exhaust ports.**

Doing so will cause the projector to overheat, which can cause fire or damage to the projector.

- Do not place the projector in narrow, badly ventilated places.
- Do not place the projector on cloth or papers, as these materials could be drawn into the air intake port.
- Provide at least 1 m (40") of space between any walls or objects and the exhaust port, and at least 50 cm (20") of space between any walls or objects and the intake port.

**Do not place your hands or other objects close to the air exhaust port.**

Doing so will cause burns or damage your hands or other objects.

- Heated air comes out of the air exhaust port. Do not place your hands or face, or objects which cannot withstand heat close to this port.

**WARNING:**

**Do not look at or place your skin into the light emitted from the lens while the projector is being used.**

Doing so can cause burns or loss of sight.

- Strong light is emitted from the projector's lens. Do not look at or place your hands directly into this light.
- Be especially careful not to let young children look into the lens. In addition, turn off the power and disconnect the power plug when you are away from the projector.

**Never attempt to remodel or disassemble the projector.**

High voltages can cause fire or electric shocks.

- For any inspection, adjustment and repair work, please contact an Authorized Service Center.

**Do not allow metal objects, flammable objects, or liquids to enter inside of the projector. Do not allow the projector to get wet.**

Doing so may cause short circuits or overheating, and result in fire, electric shock, or malfunction of the projector.

- Do not place containers of liquid or metal objects near the projector.
- If liquid enters inside of the projector, consult your dealer.
- Particular attention must be paid to children.

**Use the ceiling mount bracket specified by Panasonic.**

Using the ceiling mount bracket other than the specified one will result in falling accidents.

- Attach the supplied safety cable to the ceiling mount bracket to prevent the projector from falling down.

**Installation work (such as ceiling mount bracket) should only be carried out by a qualified technician.**

If installation is not carried out and secured correctly, it can cause injury or accidents, such as electric shocks.

- Be sure to use the wire provided with the ceiling mount bracket as an extra safety measure to prevent the projector from falling down. (Install in a different location to the ceiling mount bracket.)

■ **ACCESSORIES**

**Do not use or handle the batteries improperly, and refer to the following.**

Failure to observe this will cause burns, batteries to leak, overheat, explode or catch fire.

- Do not use unspecified batteries.
- Do not use chargeable batteries.
- Do not disassemble dry cell batteries.
- Do not heat the batteries or place them into water or fire.
- Do not allow the + and – terminals of the batteries to come into contact with metallic objects such as necklaces or hairpins.
- Do not store or carry batteries together with metallic objects.
- Store the batteries in a plastic bag and keep them away from metallic objects.
- Make sure the polarities (+ and –) are correct when inserting the batteries.
- Do not use a new battery together with an old battery or mix different types of batteries.
- Do not use batteries with the outer cover peeling away or removed.

**If the battery fluid leaks, do not touch it with bare hands, and take the following measures if necessary.**

- Battery fluid on your skin or clothing could result in skin inflammation or injury.  
Rinse with clean water and seek medical advice immediately.
- Battery fluid coming in contact with your eyes could result in loss of sight.  
In this case, do not rub your eyes. Rinse with clean water and seek medical advice immediately.

**Do not remove unspecified screws during the lamp unit replacement.**

Doing so can cause electric shocks, burns, or injury.

**Do not disassemble the lamp unit.**

If the lamp breaks, it could cause injury.

## **WARNING:**

### **Lamp replacement**

The lamp has high internal pressure. If improperly handled, an explosion and severe injury or accidents will result.

- The lamp can easily explode if struck against hard objects or dropped.
- Before replacing the lamp unit, be sure to turn the power off and to disconnect the power plug from the wall outlet.

Electric shocks or explosions can result if this is not done.

- When replacing the lamp unit, turn the power off and allow the lamp to cool for at least one hour before handling it otherwise it can cause burns.

### **Do not use the supplied power cord with devices other than this projector.**

- Using the supplied power cord with devices other than this projector may cause short circuits or overheating, and result in electric shock or fire.

### **Do not allow children to reach the batteries.**

Accidentally swallowing them can cause physical harm.

- If swallowed, seek medical advice immediately.

### **Remove the depleted batteries from the remote control promptly.**

- Leaving them in the unit may result in fluid leakage, overheating, or explosion of the batteries.

## **CAUTION:**

### **■ POWER**

#### **When disconnecting the power cord, be sure to hold the power plug and the power connector.**

If the power cord itself is pulled, the lead will become damaged, and fire, short-circuits or serious electric shocks will result.

#### **When not using the projector for an extended period of time, disconnect the power plug from the wall outlet.**

Failure to do so may result in fire or electric shock.

#### **Disconnect the power plug from the wall outlet before carrying out any cleaning and replacing the unit.**

Failure to do so may result in electric shock.

### **■ ON USE/INSTALLATION**

#### **Do not place heavy objects on top of the projector.**

Failure to observe this will cause the projector to become unbalanced and fall, which could result in damage or injury. The projector will be damaged or deformed.

#### **Do not put your weight on this projector.**

You could fall or the projector could break, and injury will result.

- Be especially careful not to let young children stand or sit on the projector.

#### **Do not place the projector in extremely hot locations.**

Doing so will cause the outer casing or internal components to deteriorate, or result in fire.

- Take particular care in locations exposed to direct sunlight or near heaters.

#### **Do not install the projector in a location where salt pollution or corrosive gas may occur.**

Doing so may result in falling due to corrosion. Also, it may result in malfunctions.

#### **Do not place objects in front of the lens while the projector is being used.**

Doing so can cause fire, damage to an object, or malfunction of the projector.

- Extremely strong light is emitted from the projector's lens.

#### **Do not stand in front of the lens while the projector is being used.**

Doing so can cause damage and burns to clothing.

- Extremely strong light is emitted from the projector's lens.

#### **Always disconnect all cables before moving the projector.**

Moving the projector with cables still attached can damage the cables, which will cause fire or electric shocks to occur.

**CAUTION:**

**When mounting the projector on the ceiling, keep mounting screws and power cord from contact with metal parts inside the ceiling.**

Contact with metal parts inside the ceiling can cause electric shocks.

■ **ACCESSORIES**

**Do not use the old lamp unit.**

If used it could cause lamp explosion.

**If the lamp has broken, ventilate the room immediately. Do not touch or bring your face close to the broken pieces.**

Failure to observe this will cause the user to absorb the gas which was released when the lamp broke and which contains nearly the same amount of mercury as fluorescent lamps, and the broken pieces will cause injury.

- If you believe that you have absorbed the gas or that the gas has got into your eyes or mouth, seek medical advice immediately.
- Ask your dealer about replacing the lamp unit and check the inside of the projector.

**When not using the projector for an extended period of time, remove the batteries from the remote control.**

Failure to observe this will cause the batteries to leak, overheat, catch fire or explode, which may result in fire or contamination of surrounding area.

■ **MAINTENANCE**

**Ask your dealer about cleaning inside the projector once a year.**

Continuous use while dust is accumulated inside the projector may result in fire.

- For cleaning fee, ask your dealer.



---

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If you wish to ask any questions as to the software, please contact (sav.pj.gpl.pavc@ml.jp.panasonic.com) by email.

## ■ Illustrations in this manual

- Illustrations of the projector, screen, and other parts may vary from the actual product.
- Pictures shown are illustrations of PT-SX320A in this manual, other models have their own characteristics and may be different from them.

## ■ Reference pages

- Reference pages in this manual are indicated as (➡ page 00).

## ■ Term

- In this manual, the “Wireless remote control unit” accessory is referred to as “Remote control”.

---

## Features of the Projector

---

### Highly flexible setup

---

- ▶ KEYSTONE, CORNER CORRECTION and CURVED CORRECTION functions allow you to correct the distortion of the various images easily.

### A portable lightweight projector with fashionable design

---

- ▶ With a weight of only 2.3 kg, it is very suitable for mobile office.

### It provides clear and bright images by using technology of high brightness and daylight view

---

- ▶ You can keep the projected image bright and vivid even in well-lit rooms where the ambient light sources cannot be controlled.

### Provides USB Viewer function without the use of a PC display

---

- ▶ This function makes it possible to project the still image stored in the USB memory.

## Quick Steps

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For details, refer to the corresponding pages.

1. Set up the projector.  
(➔ page 26)



2. Connect with external devices.  
(➔ page 30)



3. Connect the power cord.  
(➔ page 34)



4. Switch on the projector.  
(➔ page 36)



5. Make initial settings.  
(➔ page 36)
  - Take this step when you switch on the power for the first time after purchasing the projector.



6. Select the input signal.  
(➔ page 40)



7. Adjust the image.  
(➔ page 41)

# Chapter 1 Preparation

---

This chapter describes things you need to know or check before using the projector.

# Precautions for use

---

## Cautions when transporting

---

- When transporting the projector, handle it with care and avoid excessive vibration and impacts. They may damage the internal components and result in malfunctions.
- Do not transport the projector with the adjustable feet extended. Doing so may damage the adjustable feet.
- Do not move or transport the projector with the wireless module (Model No.: ET-WML100E) of the optional accessories attached. Doing so may damage the wireless module.

## Cautions when installing

---

### ■ Do not set up the projector outdoors.

The projector is designed for indoor use only.

### ■ Do not set up the projector in the following locations.

- Places where vibration and impacts occur such as in a car or vehicle: Doing so may cause damage to internal components or malfunction.
- Locations near the sea or areas affected by corrosive gas: Corrosion may damage internal components or cause the projector to malfunction.
- Near the exhaust of an air conditioner: Depending on the conditions of use, the screen may fluctuate in rare cases due to the heated air from the air exhaust port or the hot or cooled air. Make sure that the exhaust from the projector or other equipment, or the air from the air conditioner does not blow toward the front of the projector.
- Near high-voltage power lines or near motors: Doing so may interfere with the operation of the projector.
- Places with sharp temperature fluctuations such as near lights (studio lamps): Doing so may shorten the life of the lamp, or result in deformation of the outer case due to heat, which may cause malfunctions.  
Follow the operating environment temperature of the projector.

### ■ Be sure to ask a specialized technician or your dealer when installing the projector on a ceiling.

The optional Ceiling Mount Bracket is required. Model No.: ET-PKB2 (Ceiling Mount Bracket)

### ■ Focus adjustment

The projection lens is thermally affected by the light from the light source, making the focus unstable in the period just after switching on the power. It is recommended that images be projected continuously for at least 30 minutes before the focus is adjusted.

■ Do not install the projector at elevations of 2 700 m (8 858') or higher above sea level.

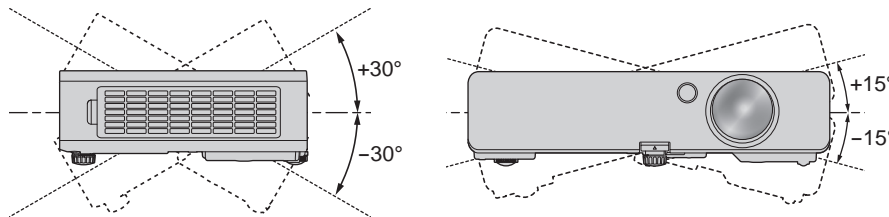
■ Do not use the projector in a location that the ambient temperature exceeds 40 °C (104 °F).

Using the projector in a location that the altitude is too high or the ambient temperature is too high may reduce the life of the components or result in malfunctions.

The upper limit of the operating environment temperature should be between 0 °C (32 °F) and 40 °C (104 °F) when using it at elevations lower than 1 400 m (4 593') above sea level, and between 0 °C (32 °F) and 35 °C (95 °F) when using it at high altitudes (between 1 400 m (4 593') and 2 700 m (8 858') above sea level).

■ Do not use the projector vertically or tilted to the right or the left.

- Do not use the projector tilted at an angle that exceeds  $\pm 30^\circ$  from the vertical plane or  $\pm 15^\circ$  from the horizontal plane. It may reduce the life of the components.

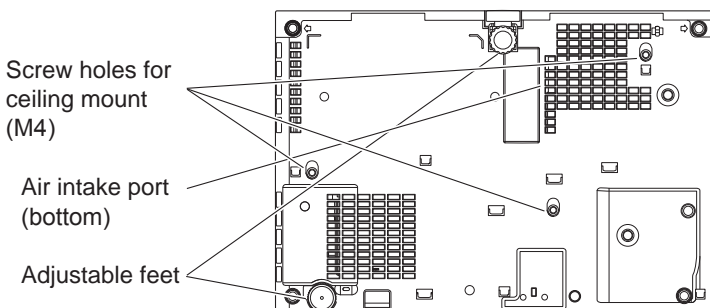


■ Cautions when setting up the projector

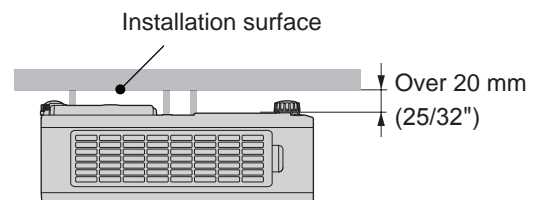
- If you want to use the projector other than the way of setting on the desk/floor with the adjustable feet or mounting on the ceiling, use the three screw holes for ceiling mounting (as shown below) to fix the projector. (Screw: M4, Depth of the screw hole: 8 mm (5/16"), Torque:  $1.25 \pm 0.2$  N·m)

In addition, always keep a gap of more than 20 mm (25/32") between the bottom of the projector and installation surface.

Make sure that there is no clearance of at least 20 mm (25/32") between the screw holes for ceiling mounting and the installation surface by inserting supports (metallic) between them.

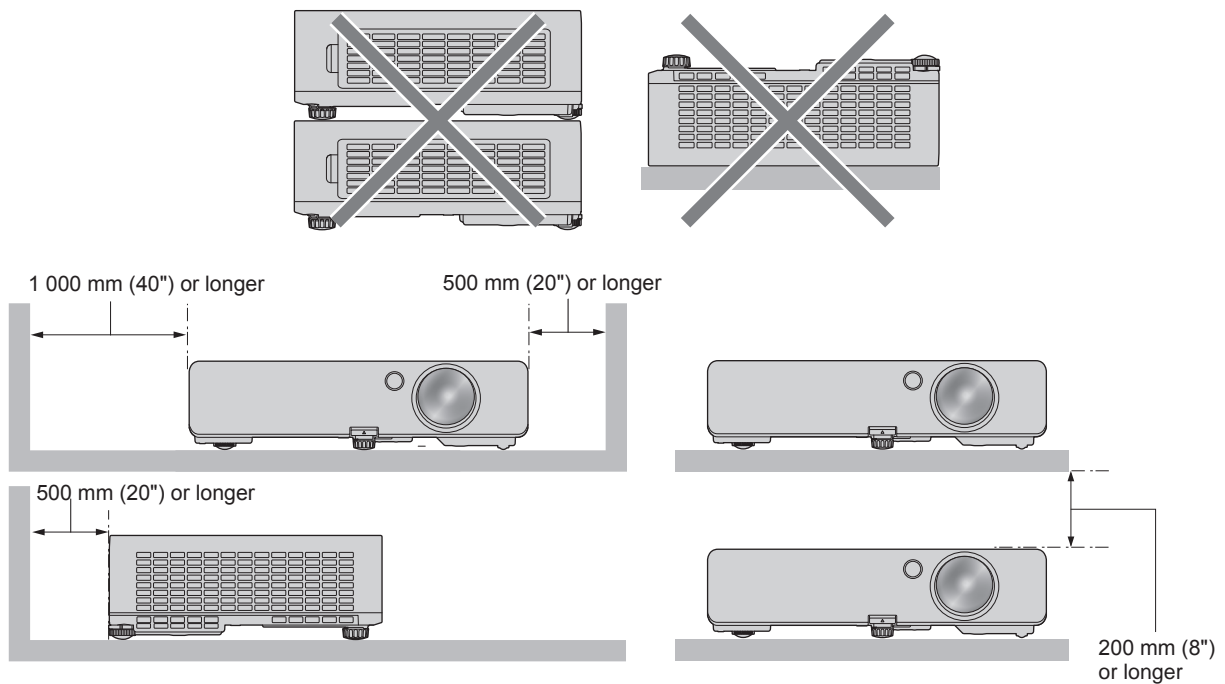


The positions of adjustable feet and the screw holes for ceiling mounting.



- Make sure the air flow into the air intake port (bottom), failure to do so may cause the projector cannot work.

- Do not stack projectors on top of each other.
- Do not use the projector supporting it by the top.
- Do not block the ventilation ports (intake and exhaust) of the projector.
- Prevent hot and cool air from the air conditioning system to blow directly to the ventilation ports (intake and exhaust) of the projector.



- Do not install the projector in a confined space.

When installing the projector in a confined space, provide air conditioning or ventilation separately. Exhaust heat may accumulate when the ventilation is not enough, triggering the protection circuit of the projector.

## Security

When using this product, take safety measures against the following incidents.

- Personal information being leaked via this product
- Unauthorized operation of this product by a malicious third party
- Interfering or stopping of this product by a malicious third party

Take sufficient security measures. (➔ pages 77, 98)

- Make your password difficult to guess as much as possible.
- Change your password periodically. The password can be set in [SECURITY] menu → [PASSWORD CHANGE].
- Panasonic Corporation or its affiliate companies will never ask for your password directly. Do not divulge your password in case you receive such inquiries.
- The connecting network must be secured by a firewall, etc.
- Set a password for the web control and restrict the users who can log in. The password for the web control can be set in [Change password] page of the web control function.

## Notes on Using Wireless Connection

Wireless connection function of the projector uses radio waves in the 2.4 GHz band.

A radio station license is not required, but be sure to read and fully understand the following items before use.

The wireless module (Model No.: ET-WML100E) of optional accessories must be installed when you want to use the wireless LAN function of this projector.

### ■ Do not use near other wireless equipment.

The following equipment may use radio waves in the same band as the projector.

When the projector is used near these devices, radio wave interference may make communication impossible, or the communication speed may become slower.

- Microwave ovens, etc.
- Industrial, chemical and medical equipment, etc.
- In-plant radio stations for identifying moving objects such as those used in factory manufacturing lines, etc.
- Designated low-power radio stations.

### ■ If at all possible, avoid the use of cellular phones, TV sets or radios near the projector.

Cellular phones, TV sets, radios and similar devices use different radio bands from the projector, so there is no effect on wireless communication or the transmission and reception of these devices. However, radio waves from the projector may produce audio or video noise.

### ■ Wireless communication radio waves cannot penetrate steel reinforcements, metal, concrete, etc.

Communication is possible through walls and floors made from materials such as wood and glass (except glass containing wire mesh), but not through walls and floors made from steel reinforcements, metal, concrete, etc.

### ■ Avoid using the projector in locations prone to static electricity.

If the projector is used in a location prone to static electricity, such as on a carpet, the wireless LAN connection may be lost.

If the static electricity or noise make it impossible to establish a connection with the LAN, please press the power button on the remote control or the control panel to power off the projector, and eliminate the source of static electricity or noise, then turn on the projector.

### ■ Using the projector outside the country

Note that depending on countries or regions there are restrictions on the channels and frequencies at which you can use the wireless LAN.

### ■ Available wireless LAN channels

The channels (frequency range) that can be used differ according to the country or region. Refer to the table below.

Country or region	Standard	Channels used	Frequency band (Center frequency)
Global	IEEE802.11b/g/n	1 - 11 channel	2.412 GHz - 2.462 GHz

\*The frequency and channel differ depending on the country.

\*Please use the wireless LAN feature in compliance with the laws of each country.

### Note

- The wireless module (Model No.: ET-WML100E) of the optional accessories is required if you want to use the wireless LAN function of this projector.

### About Wireless LANs

The advantage of a wireless LAN is that information can be exchanged between a PC or other such equipment and an access point using radio waves as long as you are within range for radio transmissions.

On the other hand, because the radio waves can travel through obstacles (such as walls) and are available everywhere within a given range, problems of the type listed below may occur if security-related settings are not made.

- A malicious third-party may intentionally intercept and monitor transmitted data including the content of e-mail and personal information such as your ID, password, and/or credit card numbers.
- A malicious third-party may access your personal or corporate network without authorization and engage in the following types of behavior.
  - Retrieve personal and/or secret information (information leak)
  - Spread false information by impersonating a particular person (spoofing)
  - Overwrite intercepted communications and issue false data (tampering)
  - Spread harmful software such as a computer virus and crash your data and/or system (system crash)

Since most wireless LAN adapters or access points are equipped with security features to take care of these problems, you can reduce the possibility of these problems occurring when using this product by making the appropriate security settings for the wireless LAN device.

Some wireless LAN devices may not be set for security immediately after purchase. To decrease the possibility of occurrence of security problems, before using any wireless LAN devices, be absolutely sure to make all security-related settings according to the instructions given in the operation manuals supplied with them.

Depending on the specifications of the wireless LAN, a malicious third-party may be able to break security settings by special means.

Panasonic asks customers to thoroughly understand the risk of using this product without making security settings, and recommends that the customer make security settings at their own discretion and responsibility.



## Cautions on use

---

### ■ To get a good picture quality

- In order to view a beautiful image in higher contrast, prepare an appropriate environment. Draw curtains or blinds over windows and turn off any lights near the screen to prevent outside light or light from indoor lamps from shining onto the screen.

### ■ Do not touch the surface of the projection lens with your bare hands.

- If the surface of the projection lens becomes dirty from fingerprints or anything else, this will be magnified and projected onto the screen.

### ■ LCD panel

- The LCD panel is precision-made. Note that in rare cases, pixels of high precision could be missing or always lit. Note that such phenomena do not indicate malfunction. If still images are projected for a long time, a residual image may remain on the LCD panel. Note that the residual image may not disappear.

### ■ Optical parts

When the operating environment temperature is high or in environments where lots of dust, cigarette smoke, etc. is present, the replacement cycle of the LCD panel, polarizing plates and other optical parts may be shorter even if used for less than one year. Consult your dealer for details.

### ■ Lamp

The light source of the projector is a high-pressure mercury lamp.

A high-pressure mercury lamp has the following characteristics.

- The luminance of the lamp will decrease by duration of usage.
- The lamp may burst with a loud sound or have its service life shortened because of shock, chipping, or degradation due to cumulative runtime.
- The lamp life varies greatly depending on individual differences and usage conditions. In particular, continuous use for 6 hours or more and frequent off/on switching of the power greatly deteriorate the lamp and affects the lamp life.
- In rare cases, the lamp bursts shortly after projection starts.
- The risk of bursting increases when the lamp is used beyond its replacement cycle. Make sure to replace the lamp unit regularly.  
(“Lamp unit replacement time” (➡ page 104), “Lamp replacement procedure” (➡ page 105))
- If the lamp bursts, gas contained inside of the lamp is released in the form of smoke.
- It is recommended that you store the Replacement lamp unit as a contingency.

### ■ Computer and external device connections

When connecting a computer or an external device, read this manual carefully regarding the use of power cords and shielded cables as well.

## Disposal

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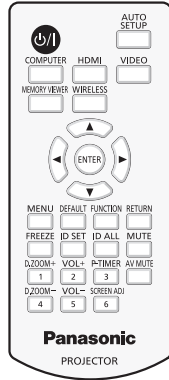
To dispose of the product, ask your local authorities or dealer for correct methods of disposal.

The lamp contains mercury. When disposing of used lamp units, contact your local authorities or dealer for correct methods of disposal.

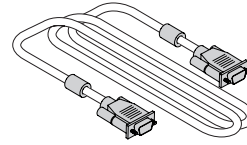
## Accessories

Make sure that the following accessories are provided with your projector. Numbers enclosed in < > show the number of accessories.

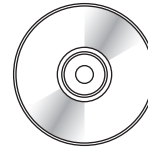
**Wireless remote control unit <1>**  
(N2QAYA000142)



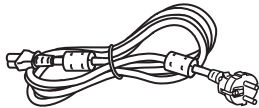
**RGB signal cable <1>**  
(K1HY15YY0012)



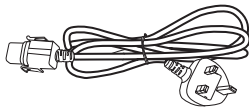
**CD-ROM <1>**  
(1JK1SX320A)



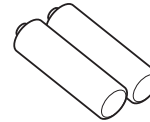
**Power cord <2>**  
(K2CM3YY00015)



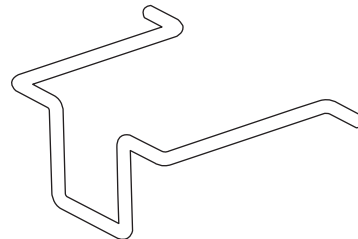
(K2CT3YY00026)



**AAA/R03 or AAA/LR03 battery <2>**  
(For remote control unit)



**Power cord safety hook <1>**  
(DPMH1106ZA)



### Attention

- After unpacking the projector, discard the power cord cap and packaging material properly.
- Do not use the supplied power cord for devices other than this projector.
- For missing accessories, consult your dealer.
- Store small parts in an appropriate manner, and keep them away from small children.

### Note

- The model numbers of accessories are subject to change without prior notice.

## Contents of the supplied CD-ROM

The contents of the supplied CD-ROM are as follows.

<b>Instruction/list (PDF)</b>	Operating Instructions – Functional Manual	
	Logo Transfer Software Operating Instructions	
	Presenter Light Software Operating Instructions	
	List of Compatible Device Models	This is a list of display models (projector or flat panel display) that are compatible with the software contained in the CD-ROM and their restrictions.
	Software license	The open source software licenses that used in this projector are included in the PDF files.
<b>Software</b>	Logo Transfer Software (Windows)	This software allows you to transfer original images, such as company logos to be displayed when projection starts, to the projector.

## Optional accessories

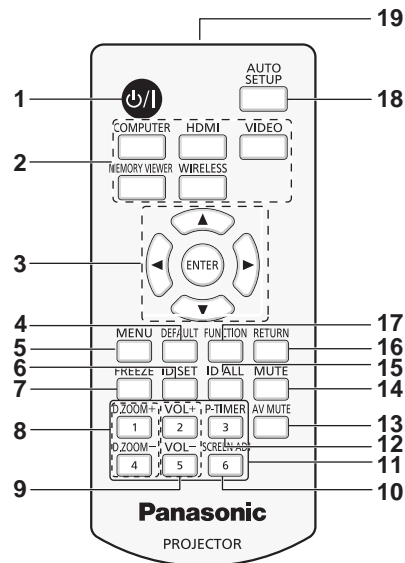
Optional accessories (product name)	Model No.
Ceiling Mount Bracket	ET-PKB2 (Ceiling Mount Bracket)
Replacement Lamp Unit	ET-LAL600
Wireless Module	ET-WML100E
D-SUB - S Video conversion cable	ET-ADSV

### Note

- The model numbers of optional accessories are subject to change without prior notice.

# About your projector

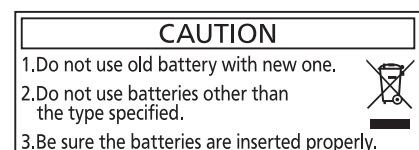
## Remote control



- |   |   |
|---|---|
| <p><b>1 Power</b> &lt;⏻/⏻&gt; button (⏻ standby /   power)<br/>Turn the projector on or off. (➔ page 36, 39)</p> <p><b>2 Input selection</b> (&lt;COMPUTER&gt;, &lt;HDMI&gt;, &lt;VIDEO&gt;, &lt;MEMORY VIEWER&gt;, &lt;WIRELESS&gt;) buttons<br/>Switches the input signal to project. (➔ page 40)</p> <p><b>3 &lt;ENTER&gt; button/▲▼◀▶ buttons</b><br/>Navigate the MENU display.</p> <p><b>4 &lt;DEFAULT&gt; button</b><br/>Resets the content of the sub-menu to the factory default. (➔ page 49)</p> <p><b>5 &lt;MENU&gt; button</b><br/>Open or close the On-Screen Menu. (➔ page 48)</p> <p><b>6 &lt;ID SET&gt; button</b><br/>Sets the ID number of the remote control in a multiple projector environment. (➔ page 24)</p> <p><b>7 &lt;FREEZE&gt; button</b><br/>Used when pausing the image and turning off the audio. (➔ page 43)</p> <p><b>8 &lt;D.ZOOM-&gt;/&lt;D.ZOOM+&gt; button</b><br/>Zoom in and out the images. (➔ page 44)</p> <p><b>9 &lt;VOL-&gt; button/&lt;VOL+&gt; button</b><br/>Adjusts the volume of the built-in speaker (➔ page 42)</p> | <p><b>10 &lt;SCREEN ADJ&gt; button</b><br/>Correct keystone distortion (➔ page 43)</p> <p><b>11 Number (&lt;1&gt; ~ &lt;6&gt;) buttons</b><br/>Used for entering an ID number or a password in a multiple projectors environment.</p> <p><b>12 &lt;P-TIMER&gt; button</b><br/>Operates the presentation timer function. (➔ page 45)</p> <p><b>13 &lt;AV MUTE&gt; button</b><br/>Used when temporarily turning off the image and the audio. (➔ page 42)</p> <p><b>14 &lt;MUTE&gt; button</b><br/>Used when temporarily turning off the audio. (➔ page 42)</p> <p><b>15 &lt;ID ALL&gt; button</b><br/>Used to simultaneously control all the projectors with a single remote control in a multiple projector environment. (➔ page 24)</p> <p><b>16 &lt;RETURN&gt; button</b><br/>Return to the previous menu or cancel the setting.</p> <p><b>17 &lt;FUNCTION&gt; button</b><br/>Assigns a frequently used operation as a shortcut button. (➔ page 45)</p> <p><b>18 &lt;AUTO SETUP&gt; button</b><br/>Automatically adjusts the image display position while the image is projected. (➔ page 43)</p> <p><b>19 Remote control signal transmitter</b></p> |
|---|---|

### Attention

- Do not drop the remote control.
- Avoid contact with liquids or moisture.
- Do not attempt to modify or disassemble the remote control.
- Please observe the following contents that are described on the back of the remote control unit (see the right picture).
  - Do not use a new battery together with an old battery.
  - Do not use unspecified batteries.
  - Make sure the polarities (+ and -) are correct when inserting the batteries.
- In addition, please read the contents that are related to batteries in the "Read this first!".



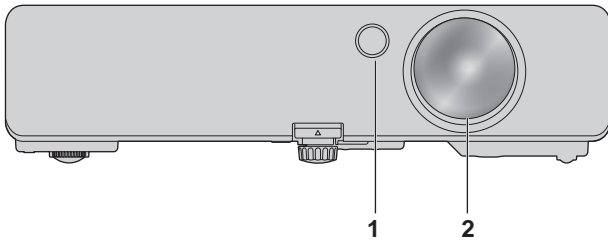
Caution label at the back of the remote control

**Note**

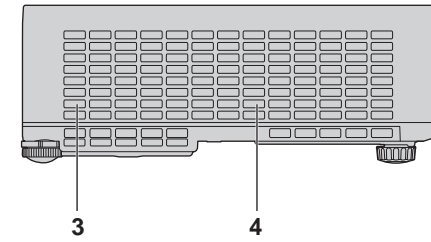
- When operating the remote control by directly pointing the remote control signal receiver of the projector, operate the remote control at a distance approx. 7 m (22'11-5/8") or shorter from the remote control signal receiver. The remote control can control at angles of up to  $\pm 30^\circ$  vertically and horizontally, but the effective control range may be reduced.
- If there are any obstacles between the remote control and the remote control signal receiver, the remote control may not operate properly.
- The signal will be reflected off the screen. However, the operating range may be limited from light reflection loss due to the screen material.
- If the remote control signal receiver directly receives strong light, such as fluorescent light, the remote control may not operate properly. Use it in a place distant from the light source.
- The power indicator <ON(G) / STANDBY(R)> will blink if the projector receives a remote control signal.

**Projector body**

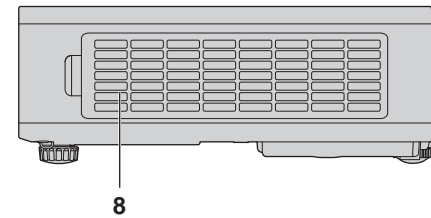
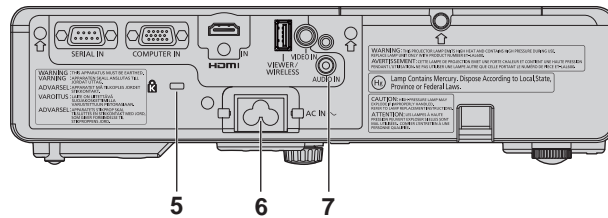
■ **Front**



■ **Side**



■ **Rear**



← : Projection direction

**WARNING**

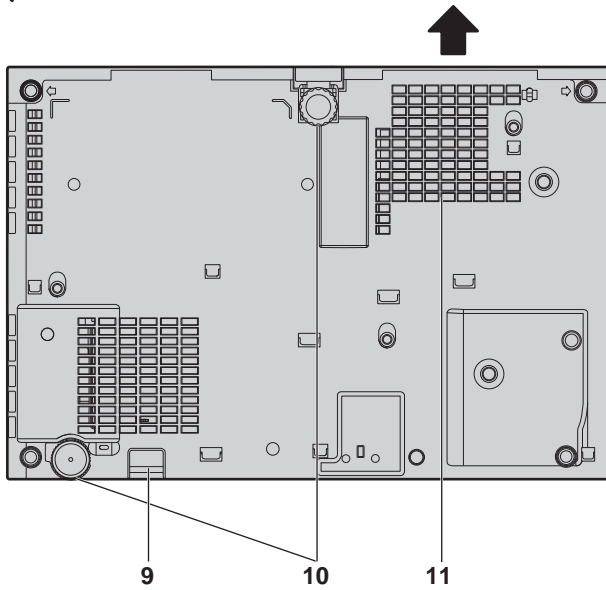
**Keep your hands and other objects away from the air exhaust port.**

- Keep your hands and face away.
  - Do not insert your fingers.
  - Keep heat-sensitive objects away.
- Heated air from the air exhaust port can cause burns, injury, or deformations.

- 1 Remote control signal receiver
- 2 Projection lens
- 3 Air exhaust port
- 4 Speaker
- 5 Security slot  
This security slot is compatible with the Kensington security cables.
- 6 <AC IN> terminal  
Connect the supplied power cord.
- 7 Connecting terminals (➔ page 23)
- 8 Air filter

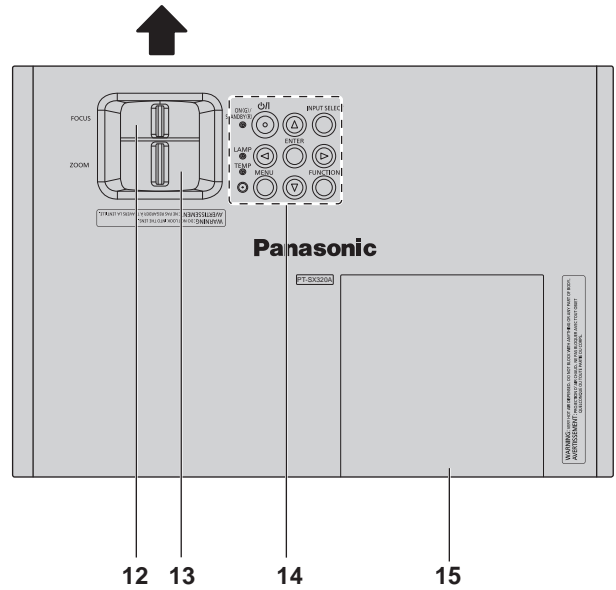
■ Bottom

← : Projection direction



- 9 Burglar hook port**  
Attaches a burglar prevention cable, etc.
- 10 Adjustable feet**  
Adjusts the projection angle.
- 11 Air intake port**
- 12 Focus lever**  
Adjust the focus

■ Top

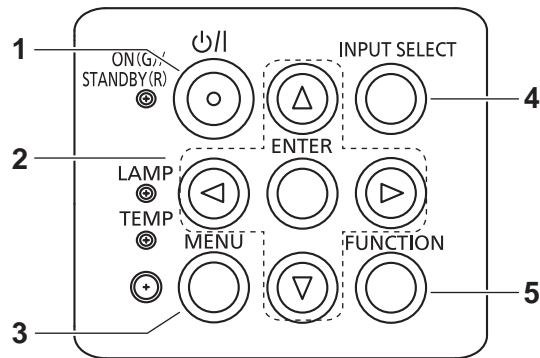


- 13 Zoom lever**  
Adjust the zoom
- 14 Control panel and indicators (→ page 23)**
- 15 Lamp cover (→ page 105)**  
The lamp unit is inside.

**Attention**

- Do not block the ventilation ports (intake and exhaust) of the projector.

## ■ Control panel and indicators



**1 Power «b/|» button (b standby / | power on)**  
Turns the projector on/off.

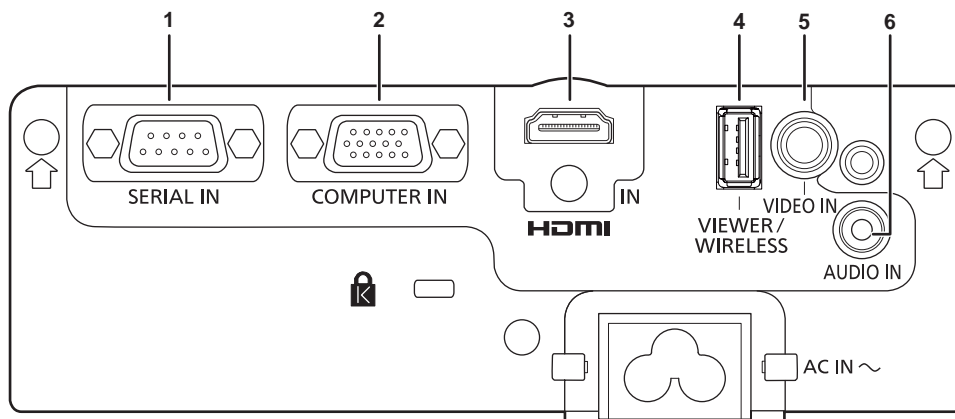
**2 «ENTER» / «▲» / «▼» / «▶» / «◀» buttons**  
Used to navigate through the menu screen. (➔ page 48)  
Also used to enter a password in [SECURITY] or enter characters.

**3 «MENU» button**  
Displays or hides the main menu.

**4 «INPUT SELECT» button**  
Switches the input signal to project. (➔ page 40)

**5 «FUNCTION» button**  
link to a menu function

## ■ Connecting terminals



**1 «SERIAL IN» terminal**  
This is the RS-232C compatible terminal to externally control the projector by connecting a computer.

**2 «COMPUTER IN» terminal**  
This is the terminal to input RGB signals, YCbCr/YPbPr signals, or Y/C signals.

**3 «HDMI IN» terminal**  
This is the terminal to input HDMI signals.

**4 «VIEWER/WIRELESS» terminal**  
When using the Memory Viewer function, insert the USB memory directly to this terminal. (➔ page 84)  
Please insert the wireless module (Model No.: ET-WML100E) directly to this terminal when using the wireless LAN function. (➔ page 86)

**5 «VIDEO IN» terminal**  
This is the terminal to input video signals.

**6 «AUDIO IN» terminal**  
This is the terminal to input audio signals.

# Preparing the remote control

## Inserting and removing the batteries

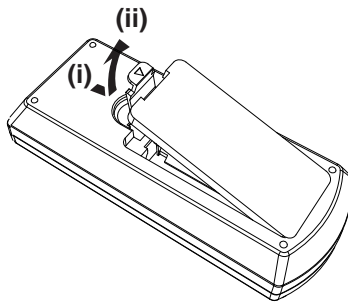


Fig.1

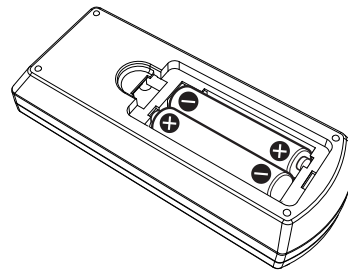


Fig.2

- 1) Open the cover. (Fig. 1)
- 2) Insert the batteries and close the cover (insert the  $\ominus$  side first). (Fig. 2)
  - When removing the batteries, perform the steps in reverse order.

## When using the system with multiple projectors

When you use the system with multiple projectors, you can operate all the projectors simultaneously or each projector individually by using single remote control, if a unique ID number is assigned to each projector.

When you want to set the ID number, at first you need to complete the Initial setting, and then after setting the ID number of the projector, set the ID number on the remote control.

About Initial setting, please refer to “When the initial setting screen is displayed” (➔ page 36).

The factory default ID number of the unit (the projector and the remote control) is set to [ALL], you can control with this setting. If necessary, please set the ID number to the remote control and the projector.

About how to set the ID number of the remote control, please refer to “Setting the ID number of the remote control” (➔ page 46).

### Note

- Set the ID number of the projector from the [PROJECTOR SETUP] menu → [PROJECTOR ID] (➔ page 70).



# Chapter 2 Getting Started

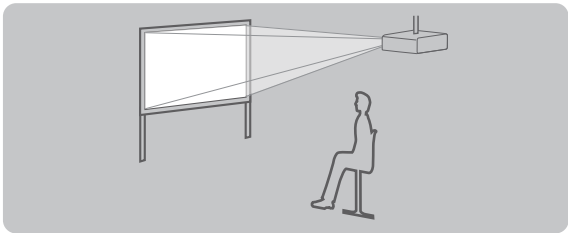
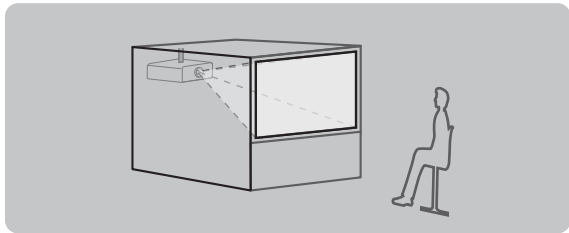
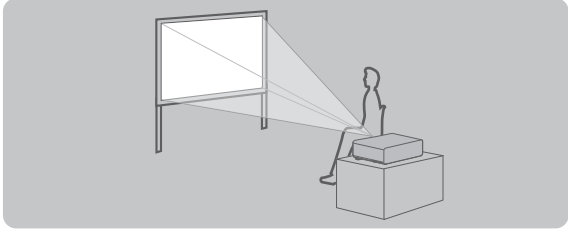
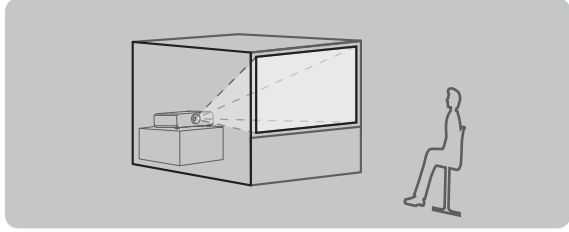
---

This chapter describes things you need to do before using the projector such as the setup and connections.

# Setting up

## Installation mode

There are four ways to set up the projector. Set the [PROJECTOR SETUP] menu → [PROJECTION METHOD] (➔ page 71) depending on the installation method.

<b>Mounting on the ceiling and projecting forward</b> 		<b>Mounting on the ceiling and projecting from rear</b> (Using the translucent screen) 	
Menu item	Method	Menu item	Method
[PROJECTION METHOD]	[AUTO] or [FRONT/CEILING]	[PROJECTION METHOD]	[REAR/CEILING]
<b>Setting on a desk/floor and projecting forward</b> 		<b>Setting on a desk/floor and projecting from rear</b> (Using the translucent screen) 	
Menu item	Method	Menu item	Method
[PROJECTION METHOD]	[AUTO] or [FRONT/DESK]	[PROJECTION METHOD]	[REAR/DESK]

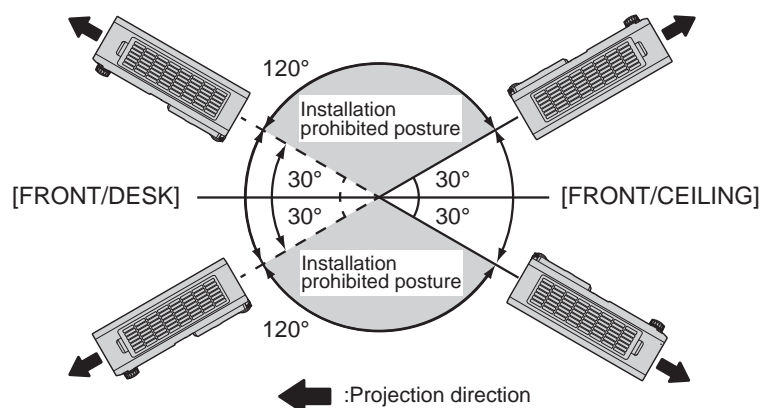
### Note

- The projector has a built-in angle sensor. When projecting in front of the screen, if set the [PROJECTOR SETUP] menu → [PROJECTION METHOD] → [AUTO], the projector's posture will be detected automatically. When projecting from rear, please set the [PROJECTION METHOD] to [REAR/DESK] or [REAR/CEILING].

### ■ Angle sensor

The range of installation posture detected by the projector's built-in angle sensor is as follows.

In the case of [AUTO], when the projector is placed horizontally upright within  $\pm 120^\circ$ , it will switch to [FRONT/DESK]; when the projector is placed horizontally upside down within  $\pm 30^\circ$ , it will switch to [FRONT/CEILING] automatically. However, the setting range for [FRONT/DESK] is horizontally upright within  $\pm 30^\circ$ .



### Attention

- The angle sensor cannot detect whether it is the "Installation prohibited posture" in the above picture. Please do not use the projector tilted at an angle that exceeds  $\pm 30^\circ$  from the vertical plane. It may reduce the life of the components.

## Parts for ceiling mount (optional)

The projector can be installed on the ceiling by combining the optional Ceiling Mount Bracket (Model No.: ET-PKB2 (Ceiling Mount Bracket)).

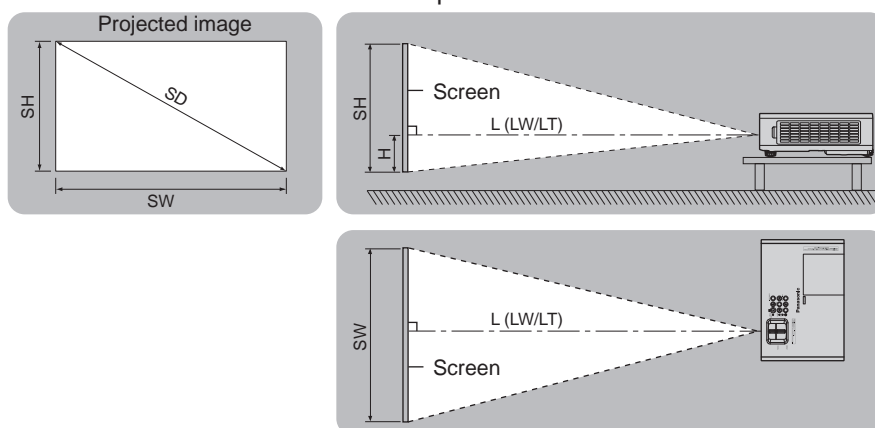
- Be sure to use the Ceiling Mount Bracket specified for this projector.
- Refer to the Installation Instructions supplied with the Ceiling Mount Bracket when installing the projector with the bracket.

### Attention

- To ensure projector performance and security, installation of the Ceiling Mount Bracket must be carried out by your dealer or a qualified technician.

## Projected image and throw distance

Refer to the screen size and projection distances to install the projector. Image size and image position can be adjusted in accordance with the screen size and screen position.



### Note

- This illustration is represented on the assumption that the size and position of the projection screen are matched to fill the screen.

(Unit: m)

$L (LW/LT)^{*1}$	Projection distance
SH	Projected image height
SW	Projected image width
H	Distance from the lens center to the bottom edge of the projected image (When setting on a desk/floor, if the bottom edge of the projected image is below the lens center, the value of H is positive.)
SD	Projected image size

\*1 LW: Minimum projection distance  
LT: Maximum projection distance

### Attention

- Before setting up, read "Precautions for use" (➔ page 12).

## Projection distance

A  $\pm$  5% error in listed projection distances may occur.

In addition, when [SCREEN ADJUSTMENT] is used, distance is corrected to become smaller than the specified screen size.

### For PT-SX320A and PT-SX300A

(Unit: m)

Projection screen size	16:9 aspect ratio		4:3 aspect ratio	
	Diagonal (SD)	Minimum distance (LW)	Maximum distance (LT)	Minimum distance (LW)
0.84 (33")	—	1.2 (3' 11")	—	1.1 (3' 7")
1.02 (40")	1.3 (4' 3")	1.5 (4' 11")	1.1 (3' 7")	1.4 (4' 7")
1.27 (50")	1.6 (5' 3")	1.9 (6' 2")	1.4 (4' 7")	1.7 (5' 6")
1.52 (60")	1.9 (6' 2")	2.3 (7' 6")	1.7 (5' 6")	2.1 (6' 10")
1.78 (70")	2.2 (7' 2")	2.6 (8' 6")	2.0 (6' 6")	2.4 (7' 10")
2.03 (80")	2.5 (8' 2")	3.0 (9' 10")	2.3 (7' 6")	2.8 (9' 2")
2.29 (90")	2.9 (9' 6")	3.4 (11' 1")	2.6 (8' 6")	3.1 (10' 2")
2.54 (100")	3.2 (10' 6")	3.8 (12' 5")	2.9 (9' 6")	3.5 (11' 5")
3.05 (120")	3.8 (12' 5")	4.6 (15' 1")	3.5 (11' 5")	4.2 (13' 9")
3.81 (150")	4.8 (15' 7")	5.7 (18' 8")	4.4 (14' 4")	5.2 (17' 0")
5.08 (200")	6.3 (20' 8")	7.6 (24' 11")	5.8 (19' 0")	7.0 (22' 11")
6.35 (250")	7.9 (25' 11")	9.5 (31' 2")	7.3 (23' 11")	8.7 (28' 6")
7.62 (300")	9.5 (31' 2")	11.5 (37' 7")	8.7 (28' 6")	10.5 (34' 5")

### For PT-SW280A

(Unit: m)

Projection screen size	16:10 aspect ratio		4:3 aspect ratio	
	Diagonal (SD)	Minimum distance (LW)	Maximum distance (LT)	Minimum distance (LW)
0.84 (33")	—	1.2 (3' 11")	—	1.4 (4' 7")
1.02 (40")	1.2 (3' 11")	1.5 (4' 11")	1.4 (4' 7")	1.7 (5' 6")
1.27 (50")	1.5 (4' 11")	1.8 (5' 11")	1.7 (5' 6")	2.1 (6' 10")
1.52 (60")	1.8 (5' 11")	2.2 (7' 2")	2.1 (6' 10")	2.5 (8' 2")
1.78 (70")	2.1 (6' 10")	2.6 (8' 6")	2.4 (7' 10")	2.9 (9' 6")
2.03 (80")	2.5 (8' 2")	2.9 (9' 6")	2.8 (9' 2")	3.3 (10' 10")
2.29 (90")	2.8 (9' 2")	3.3 (10' 10")	3.1 (10' 2")	3.8 (12' 5")
2.54 (100")	3.070 (10' 1")	3.7 (12' 2")	3.5 (11' 5")	4.2 (13' 9")
3.05 (120")	3.7 (12' 2")	4.4 (14' 4")	4.2 (13' 9")	5.0 (16' 5")
3.81 (150")	4.6 (15' 1")	5.5 (18' 1")	5.2 (17' 0")	6.3 (20' 8")
5.08 (200")	6.2 (20' 4")	7.4 (24' 3")	7.0 (22' 11")	8.4 (27' 7")
6.35 (250")	7.7 (25' 3")	9.3 (30' 6")	8.7 (28' 6")	10.5 (34' 5")
7.62 (300")	9.3 (30' 6")	11.1 (36' 5")	10.5 (34' 5")	12.6 (41' 4")

## Projection distance formulas

To use a screen size not listed in this manual, check the screen size SD (m) and use the respective formula to calculate projection distance.

The unit of all the formulae is m. (Values obtained by the following calculation formulae contain a slight error.)

When calculating a projection distance using image size designation (value in inches), multiply the value in inches by 0.0254 and substitute it into SD in the formula for calculating the projection distance.

### For PT-SX320A and PT-SX300A

(Unit: m)

	16:9 aspect ratio	4:3 aspect ratio
Screen height (SH)	= 0.0125 × SD	= 0.0152 × SD
Screen width (SW)	= 0.0221 × SD	= 0.0203 × SD
Minimum distance (LW)	= 0.0318 × SD - 0.011	= 0.0292 × SD - 0.025
Maximum distance (LT)	= 0.0383 × SD - 0.035	= 0.0351 × SD - 0.033

### For PT-SW280A

(Unit: m)

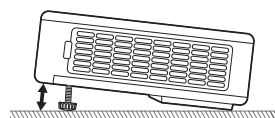
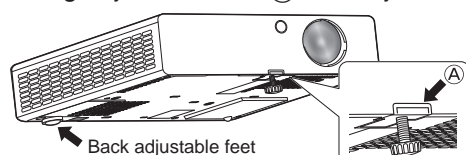
	16:10 aspect ratio	4:3 aspect ratio
Screen height (SH)	= 0.01346 × SD	= 0.0152 × SD
Screen width (SW)	= 0.02154 × SD	= 0.0203 × SD
Minimum distance (LW)	= 0.030952 × SD - 0.025	= 0.03504 × SD - 0.025
Maximum distance (LT)	= 0.037206 × SD - 0.033	= 0.04212 × SD - 0.033

## Adjusting adjustable feet

Install the projector on a flat surface so that the front of the projector is parallel to the screen surface and the projected image is rectangular.

If the screen is tilted downward, the projected image can be adjusted to be rectangular by adjusting the front adjustable feet. The adjustable feet can also be used to adjust the projector to be level when it is tilted in the horizontal direction.

Press the leg adjuster button (A) and adjust the vertical projection angle.



Maximum adjustable range  
 Front adjustable feet: 50 mm (1-31/32")  
 Back adjustable feet: 23 mm (29/32")

### Attention

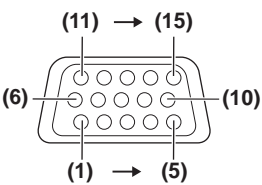
- Heated air is expelled from the air exhaust port while the lamp is lit. Do not touch the air exhaust port directly when adjusting the adjustable feet. (➔ page 21)

# Connecting

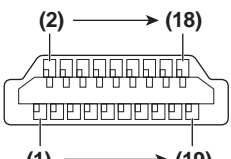
## Before connecting

- Before connecting, carefully read the operating instructions for the external device to be connected.
- Turn off the power of all devices before connecting cables.
- Take note of the following points before connecting the cables. Failure to do so may result in malfunctions.
  - When connecting a cable to a device connected to the projector or the projector itself, touch any nearby metallic objects to eliminate static electricity from your body before performing work.
  - Do not use unnecessarily long cables to connect a device to the projector or to the projector body. The longer the cable, the more susceptible to noise it becomes. Since using a cable while it is wound makes it act like an antenna, it is more susceptible to noise.
  - When connecting cables, connect GND first, then insert the connecting terminal of the connecting device in a straight manner.
- Acquire any connection cable necessary to connect the external device to the system that is neither supplied with the device nor available as an option.
- If video signals from video equipment contain too much jitter, the images on the screen may wobble. In this case, a time base corrector (TBC) must be connected.
- The projector accepts video signals, Y/C signals, YC<sub>B</sub>C<sub>R</sub>/YP<sub>B</sub>P<sub>R</sub> signals and analog RGB signals (synchronization signals are TTL level).
- Some computer models or graphics cards are not compatible with the projector.
- Use a cable compensator when you connect devices to the projector using long cables. Otherwise the image may not display properly.
- Refer to “List of compatible signals” (➡ page 112) for the types of video signals that can be used with the projector.

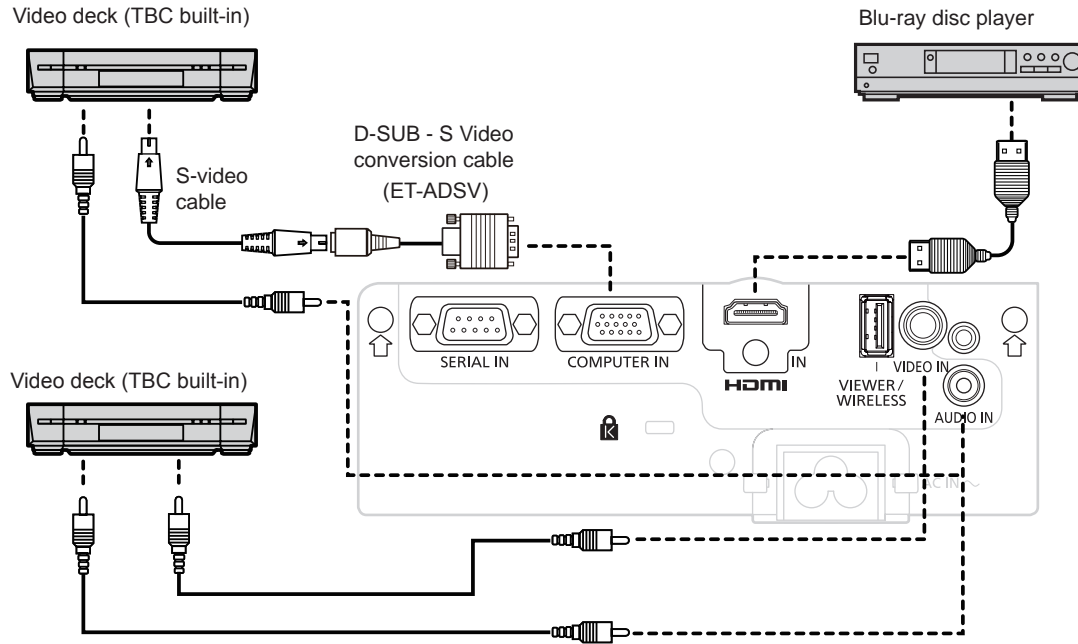
## ◀COMPUTER IN▶ terminal pin assignments and signal names

Outside view	Pin No.	Signal name	Pin No.	Signal name
	(1)	R/P <sub>R</sub> /C	(9)	+5 V
	(2)	G/Y/Y	(10)	GND
	(3)	B/P <sub>B</sub>	(11)	GND
	(4)	—	(12)	DDC data
	(5)	GND	(13)	HD/SYNC
	(6)	GND	(14)	VD
	(7)	GND	(15)	DDC clock
	(8)	GND		

## ◀HDMI IN▶ terminal pin assignments and signal names

Outside view	Pin No.	Signal name	Pin No.	Signal name
 <p>Even-numbered pins of (2) to (18)</p> <p>Odd-numbered pins of (1) to (19)</p>	(1)	T.M.D.S data 2+	(11)	T.M.D.S clock shield
	(2)	T.M.D.S data 2 shield	(12)	T.M.D.S clock-
	(3)	T.M.D.S data 2-	(13)	CEC
	(4)	T.M.D.S data 1+	(14)	—
	(5)	T.M.D.S data 1 shield	(15)	SCL
	(6)	T.M.D.S data 1-	(16)	SDA
	(7)	T.M.D.S data 0+	(17)	DDC/CEC GND
	(8)	T.M.D.S data 0 shield	(18)	+5 V
	(9)	T.M.D.S data 0-	(19)	Hot plug detection
	(10)	T.M.D.S clock+		

## Connecting example: AV equipment



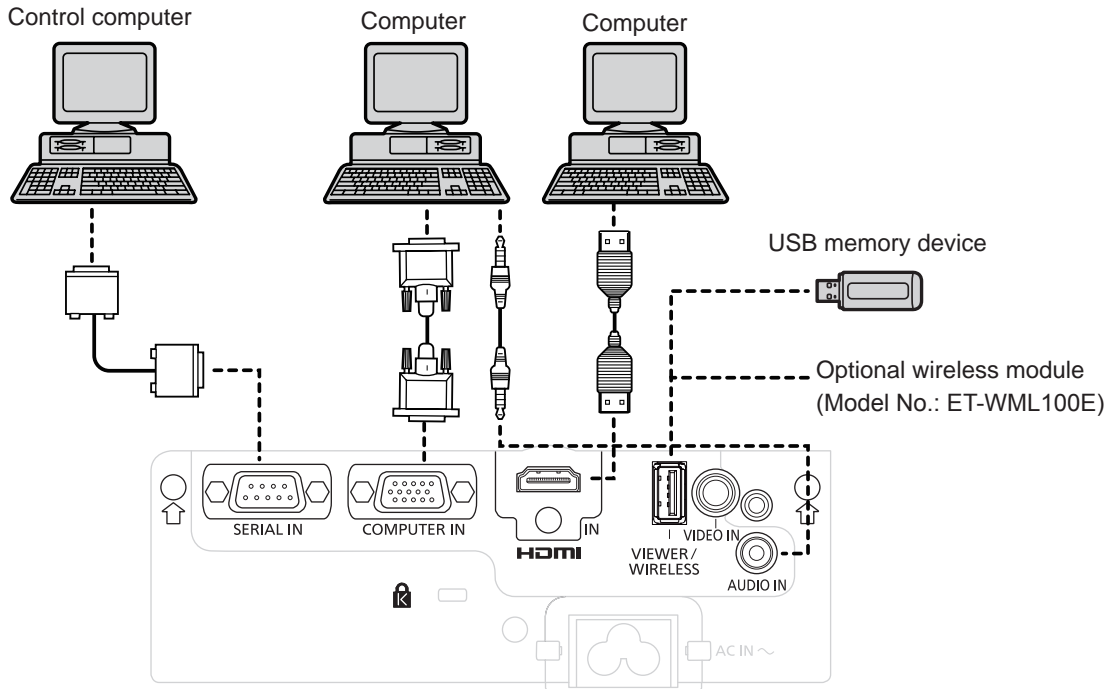
### Attention

- Always use one of the following when connecting a VCR.
  - A VCR with built-in time base corrector (TBC)
  - A time base corrector (TBC) between the projector and the VCR
- If nonstandard burst signals are connected, the image may be distorted. In such case, connect the time base corrector (TBC) between the projector and the external devices.

### Note

- For an HDMI cable, use an HDMI High Speed cable that conforms to HDMI standards. If a cable that does not conform to HDMI standards is used, images may be interrupted or may not be displayed.
- The <HDMI IN> terminal of the projector can be connected to an external device with a DVI-D terminal by using an HDMI/DVI conversion cable, but some devices may not project the image properly or function properly.
- The projector does not support VIERA Link (HDMI).
- If the [AUDIO IN SELECT] settings are incorrect, the projector may have malfunctions such as the absence of audio.
- When Y/C signals are input, please use the optional D-SUB - S Video conversion cable (Model No.: ET-ADSV).

## Connecting example: Computers



### Attention

- When connecting the projector to a computer or an external device, use the power cord supplied with each device and commercially available shielded cables.

### Note

- For an HDMI cable, use an HDMI High Speed cable that conforms to HDMI standards. If a cable that does not conform to HDMI standards is used, images may be interrupted or may not be displayed.
- The <HDMI IN> of the projector can be connected to an external device with a DVI-D terminal by using an HDMI/DVI conversion cable, but some devices may not project the image properly or function properly.
- If you operate the projector using the computer with the resume feature (last memory), you may have to reset the resume feature to operate the projector.
- If the [AUDIO IN SELECT] settings are incorrect, the projector may have malfunctions such as the absence of audio.
- It does not support USB HUB, so plug the optional wireless module (Model No.: ET-WML100E) or the USB memory device into the <VIEWER/WIRELESS> terminal directly.



# Chapter 3 Basic Operations

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This chapter describes basic operations to start with.

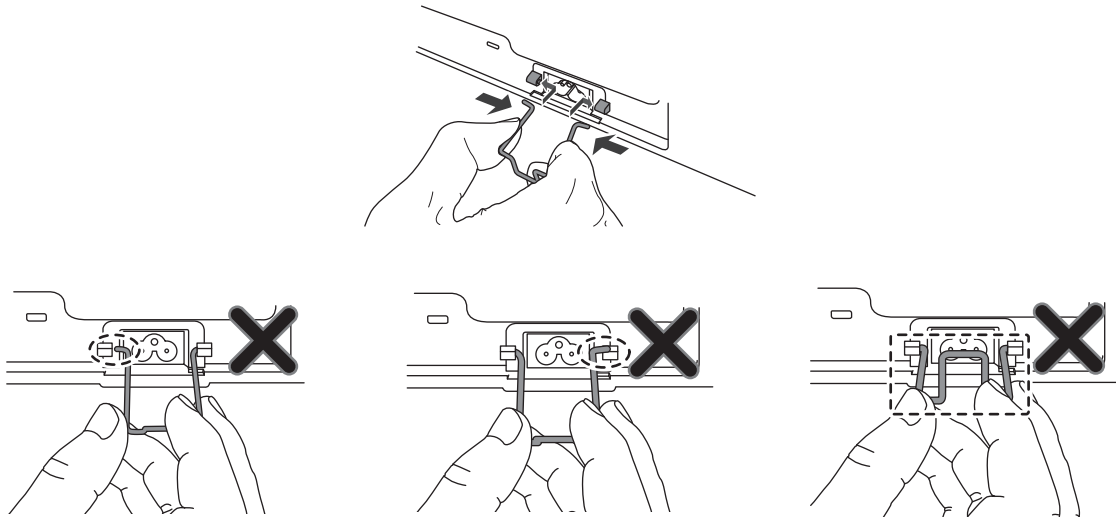
# Switching on/off the projector

## Connecting the power cord

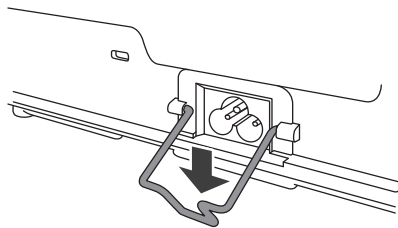
Make sure that the supplied power cord is securely fixed to the projector body to prevent it from being removed easily. For details of power cord handling, refer to “Read this first!” (➔ page 4).

### Attaching the power cord

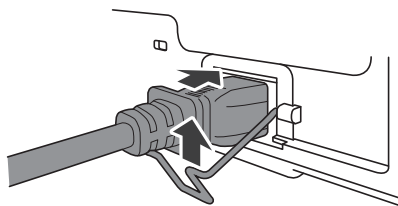
- 1) Pinch the both sides of the power cord safety hook, making it slightly deformed. Place it into the position as shown in the blow to make it align with the holes on the both sides of the power connector.



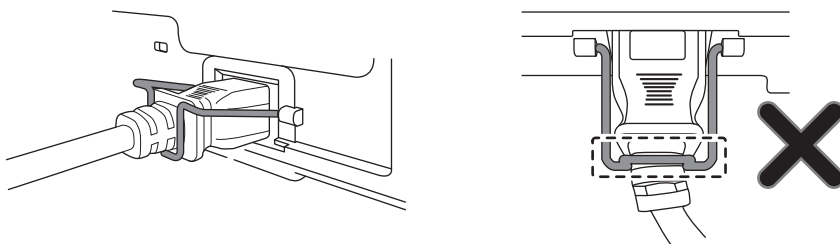
- 2) Release the fingers, making the power cord safety hook in place and the hook in the bottom position.



- 3) Push the connector all the way into the AC IN terminal ensuring that the shape of the connector matches that of the terminal. Push the hook on the bottom, and make it up, until you can't push it.



- 4) Make sure that the power cord safety hook is pushed up in place, otherwise the power cord may fall off.

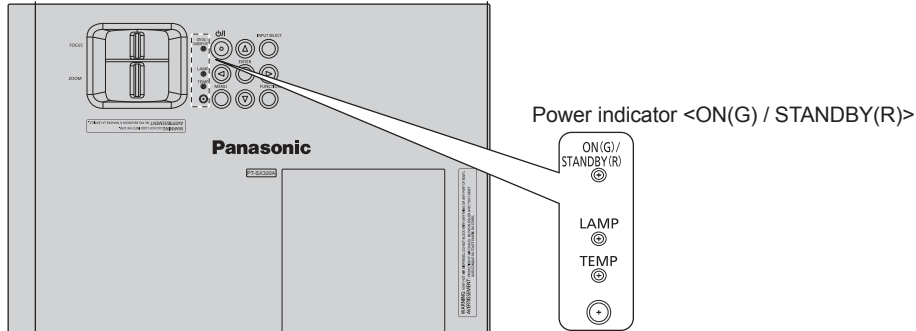


## Removing the power cord

- 1) Ensuring the projector is in standby mode. Pull down the power cord safety hook and make the hook in the bottom position.
- 2) Disconnect the power cord and remove the power cord safety hook.

## Power indicator

Displays the status of the power. Check the status of the power indicator <ON(G) / STANDBY(R)> before operating the projector.



Indicator status		Status
Off		The power cord is unplugged.
Red	Lighting	The power is switched off (in standby mode). The [ECO MANAGEMENT] → [STANDBY MODE] is set to [ECO].
	Blinking <sup>*1</sup>	The power is switched off (in standby mode). The [ECO MANAGEMENT] → [STANDBY MODE] is set to [NORMAL].
Orange	Lighting	The projector is cooling down. The power is switched off after a while. (Changes to the standby mode.)
Green	Lighting	Projecting.
	Blinking <sup>*2</sup>	The power is on and the lamp is not working. The [ECO MANAGEMENT] → [POWER MANAGEMENT] is set to [READY].
	Blinking <sup>*3</sup>	The lamp starts work. The projector will project image after a while.

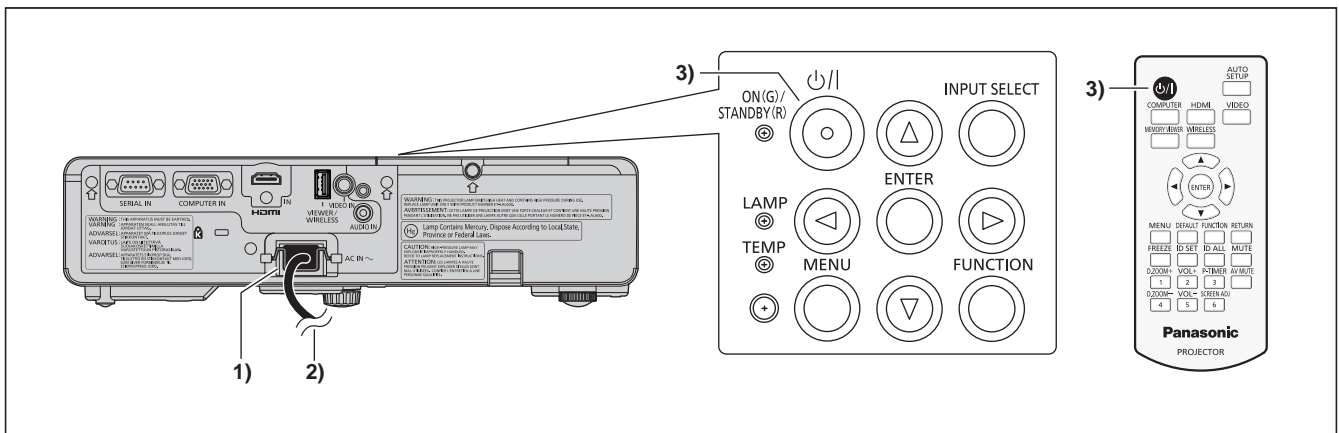
\*1 The indicator will light as the following order:  
2.75 seconds (light) → 0.25 seconds (off)

\*2 The indicator will light as the following order:  
2.0 seconds (light) → 2.0 seconds (off)

\*3 The indicator will light as the following order:  
0.5 seconds (light) → 0.5 seconds (off)

## Switching on the projector

Before switching on the projector, make sure all the other devices are correctly connected (➔ page 30).



- 1) **Connect the power cord to the projector body.**
- 2) **Connect the power plug to an outlet.**
  - The power indicator <ON(G) / STANDBY(R)> lights or blinks in red, and the projector enters the standby mode.
- 3) **Press the power <⏻/|> button.**
  - The power indicator <ON(G) / STANDBY(R)> lights in green and the image is soon projected on the screen.

### Note

- If the [PROJECTOR SETUP] menu → [ECO MANAGEMENT] → [STANDBY MODE] is set to [ECO], compare with it is set to [NORMAL], it is about 10 seconds later for the start times of the projection after open the projector.

## When the initial setting screen is displayed

When the projector is switched on for the first time after purchase as well as when [INITIALIZE ALL] in the [PROJECTOR SETUP] menu is executed, the **[INITIAL SETTING]** screen is displayed. Set them in accordance with circumstances.

In other occasions, you can change the settings by menu operations.

If you press the <RETURN> button or the <MENU> button while the **[INITIAL SETTING]** screen is displayed, you can go back to the previous screen.

### Note

- When the projector is used for the first time, in order to clearly display the menu screen, it is required to adjust the focus lever and the zoom lever. For details, refer to “Adjusting the image” (➔ page 41)

### Initial setting (display language)

Select the language to show on the screen.

After the initial setting completed, you can change the display language from the [LANGUAGE] menu.

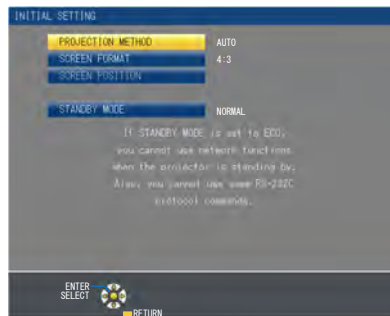
- 1) Press ▲▼◀▶ to select the display language.



- 2) Press the ◀ENTER▶ button to proceed to the initial setting.

### Initial setting (projector setting)

Set each item.



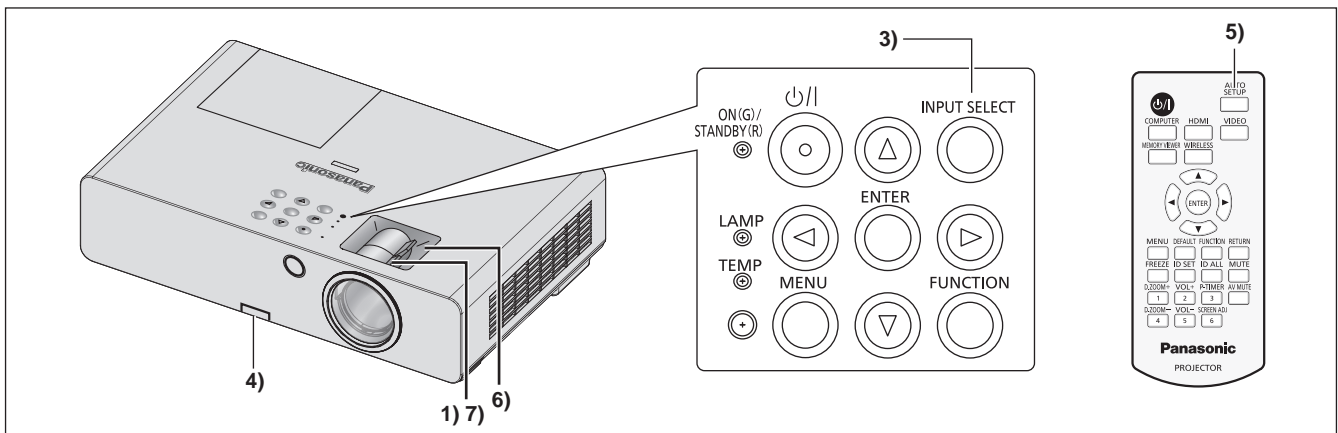
- 1) Press ▲▼ to select an item.

Item	Description	Page
[PROJECTION METHOD]	Set [PROJECTION METHOD] depending on the installation mode. For details, refer to "Installation mode" (▶ page 26). After the initial setting is completed, you can change the setting from the [PROJECTOR SETUP] menu → [PROJECTION METHOD].	26, 71
[SCREEN FORMAT]	Set the screen format (aspect ratio) and display position of the image. After the initial setting is completed, you can change the settings of each item from the [DISPLAY OPTION] menu → [SCREEN SETTING].	65
[SCREEN POSITION]	Set the display position of the image. After the initial setting is completed, you can change the settings of each item from the [DISPLAY OPTION] menu → [SCREEN SETTING].	65
[STANDBY MODE]	Set the operation mode during standby. The default setting is [ECO] that keeps the power consumption low during standby. If you want to use the network function during standby, it can be set to [NORMAL]. After the initial setting is completed, you can change the setting from the [PROJECTOR SETUP] menu → [ECO MANAGEMENT] → [STANDBY MODE].	73

- 2) Press ◀▶ to switch the setting.
- 3) Press the ◀ENTER▶ button to proceed to the initial setting.

## Making adjustments and selections

It is recommended that images be projected continuously for at least 30 minutes before the focus is adjusted.

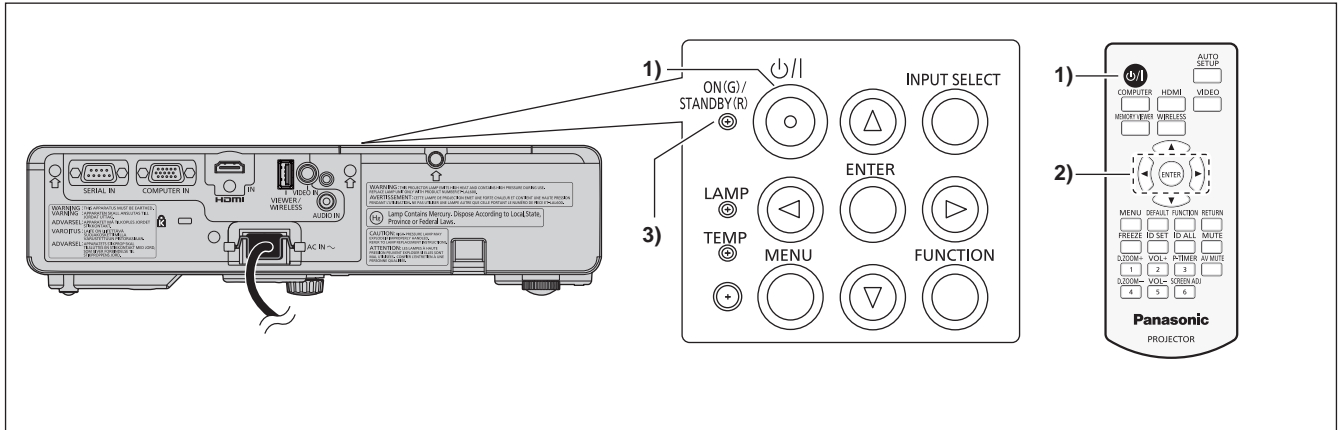


- 1) Adjust the focus of the image roughly. (➔ page 41)
- 2) Change the setting of the [PROJECTOR SETUP] menu → [PROJECTION METHOD] depending on the installation mode. (➔ page 26)
  - Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.
- 3) Press the <INPUT SELECT> button on the control panel or the input selection (<COMPUTER>, <HDMI>, <VIDEO>, <MEMORY VIEWER>, <WIRELESS>) buttons on the remote control to select the input signal.
- 4) Adjust the front, back and sideways tilt of the projector with the adjustable feet. (➔ page 29)
- 5) If the input signal is the RGB signal, press the <AUTO SETUP> button.
- 6) Adjust the size of the image to match the screen by the zoom lever. (➔ page 41)
- 7) Adjust the focus again by the focus lever.

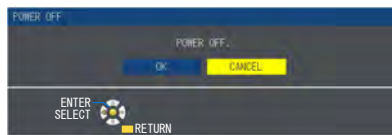
### Note

- When the projector is switched on for the first time after purchase as well as when [INITIALIZE ALL] in the [PROJECTOR SETUP] menu is executed, the [INITIAL SETTING] screen is displayed. Refer to “When the initial setting screen is displayed” (➔ page 36).

## Switching off the projector



- 1) Press the power  $\langle \text{ON} / \text{OFF} \rangle$  button.
  - The [POWER OFF] confirmation screen is displayed.



- 2) Press  $\langle \text{LEFT} \rangle$  to select [OK], and press the  $\langle \text{ENTER} \rangle$  button.  
(Or press the power  $\langle \text{ON} / \text{OFF} \rangle$  button again.)
  - Projection of the image will stop, and the power indicator  $\langle \text{ON}(\text{G}) / \text{STANDBY}(\text{R}) \rangle$  on the projector body lights in orange. (The fan keeps running.)
- 3) Wait until the power indicator  $\langle \text{ON}(\text{G}) / \text{STANDBY}(\text{R}) \rangle$  lights or blinks in red.

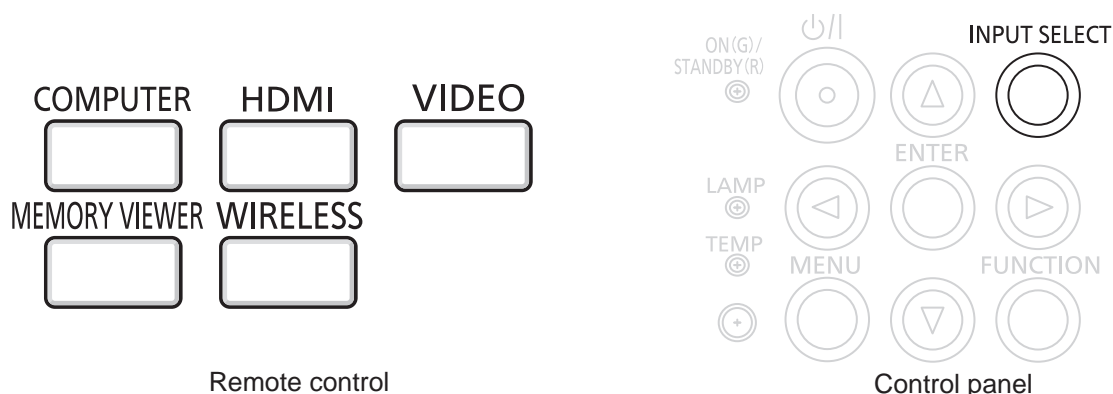
### Note

- Do not switch on the projector and project images immediately after switching off the projector. Turning on the power while the lamp is still hot may shorten the life of the lamp.
- For about 90 seconds after the projector is switched off and the luminous lamp cooling is started, the luminous lamp will not light up even if the power is switched on. In such a case, switch on the projector again after the power indicator  $\langle \text{ON}(\text{G}) / \text{STANDBY}(\text{R}) \rangle$  lights in red.
- When the power indicator  $\langle \text{ON}(\text{G}) / \text{STANDBY}(\text{R}) \rangle$  lights orange, it indicates the lamp is cooling down, and you cannot open the projector. Wait until the power indicator  $\langle \text{ON}(\text{G}) / \text{STANDBY}(\text{R}) \rangle$  starts to light or blinks in red, switch on the projector again.

# Projecting

Check the external device connection (➔ page 30), power cord connection (➔ page 34), and switch on the projector (➔ page 36) to start projecting. Select the image for projection, and adjust appearance of the projected image.

## Selecting the input signal



The input for projection can be switched. Method to switch the input is as follows.

- Press the input selection buttons on the remote control and directly specify the input to project.
- Press the <INPUT SELECT> button on the control panel to display the input selection screen and select the input to project from the list.

## Switching the input directly via remote control

The input for projection can be switched directly by pressing the input selection button on the remote control.

**Press the input selection (<COMPUTER>, <HDMI>, <VIDEO>, <MEMORY VIEWER>, <WIRELESS>) buttons.**

- Switches the input, the input guide of the selected input terminal displayed on the top right of the projection screen.

<COMPUTER>	Switches the input to COMPUTER. If one input is already selected, it will be switched to the other input. The image of the signal being input in the <COMPUTER IN> terminal is projected.
<HDMI>	Switches the input to HDMI. The image of the signal being input in the <HDMI IN> terminal is projected.
<VIDEO>	Switches the input to VIDEO. The image of the signal being input in the <VIDEO IN> terminal is projected.
<MEMORY VIEWER>	Switches the input to MEMORY VIEWER.
<WIRELESS>	Switches the input to WIRELESS. Need the wireless adapter into the <VIEWER / WIRELESS> terminal.

### Attention

- Images may not be projected properly depending on the external device, or the Blu-ray disc or DVD disc, to be played back.
- Confirm the aspect ratio of the projection screen and the image, and switch to an optimum aspect ratio from the [POSITION] menu → [ASPECT]. (➔ page 60)



## Switching the input by displaying the input guide

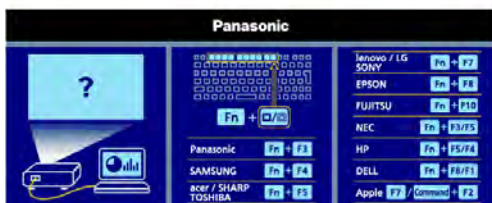
The input for projection can be selected by displaying the input guide with the control panel.

**1) Press the <INPUT SELECT> button on the control panel.**

- The [DETAILED] input guide or the [SIMPLE] input guide is displayed. (➡ page 63)

**2) Press the <INPUT SELECT> button again.**

- The input will switch each time you press the <INPUT SELECT> button.
- You can also select the input source by pressing ◀▶ on the remote control or the control panel from the [DETAILED] input guide.



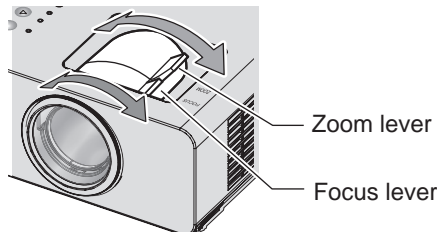
If there is no signal input ([COMPUTER], or [HDMI]), this screen will be displayed. Check the output settings of your computer.

### Note

- The input guide for [DETAILED]/[SIMPLE], you can change the setting from the [DISPLAY OPTION] menu → [ON-SCREEN DISPLAY] → [INPUT GUIDE].

## Adjusting the image

Adjust the position, size and focus of the projected image.



**1) Adjust the projection angle.**

- Install the projector on a horizontal location as the front surface of the projector is parallel to the screen surface so that the projected screen is rectangular.
- If the screen is tilted downward, extend the adjustable feet and adjust the projection screen so that the projected screen is rectangular.
- Refer to "Adjusting adjustable feet" (➡ page 29) for details.

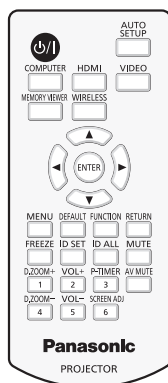
**2) Adjust the zoom and focus.**

- Adjust the projected image size by turning the zoom lever.
- Adjust the focus by turning the focus lever.

### Note

- It is recommended that images be projected continuously for at least 30 minutes before the focus is adjusted.
- Turning the focus lever changes the projection screen size. Make fine adjustments again to the projection screen size by turning the zoom lever.
- When there is distortion, execute the [POSITION] menu → [SCREEN ADJUSTMENT].

# Operating with the remote control



## Using the AV mute function

If the projector is not used for a certain period of time during the meeting intermission, for example, it is possible to turn off the image and the audio temporarily.

AV MUTE

 button

- 1) Press the «AV MUTE» button.
  - The image and the audio disappear.
- 2) Press the «AV MUTE» button again.
  - The image and the audio reappear.

## Using the mute function

Audio can be temporarily turned off.

MUTE

 button

- 1) Press the «MUTE» button.
  - The audio disappears.
- 2) Press the «MUTE» button again.
  - The audio reappears.

## Adjusting the volume

The volume of the built-in speaker can be adjusted.

VOL+

 2

VOL-

 5

buttons

- 1) Press the «VOL-» button/«VOL+» button.

«VOL-»	Decreases the volume.
«VOL+»	Increases the volume.

### Note

- This operation can be also performed by using the ◀▶ button on the control panel.

## Using the freeze function

The projected image can be paused and the audio turned off regardless of the playback of the external device.

FREEZE



button

- 1) Press the «FREEZE» button.
  - The image freezes and the audio disappears.
- 2) Press the «FREEZE» button again.
  - Freezing of the image is canceled and the audio reappears.

### Note

- [FREEZE] is displayed on the screen when video is paused.
- When no signal input, [KEY NOT APPLICABLE] message will appear.

## Using the automatic setup function

The automatic setup function can be used to automatically adjust the resolution, clock phase, and image position when analog RGB signals consisting of bitmap images such as computer signals are being input. Supplying images with bright white borders at the edges and high-contrast black and white characters is recommended when the system is in automatic adjustment mode. Avoid supplying images that include halftones or gradation, such as photographs and computer graphics.

AUTO  
SETUP



button

- 1) Press the «AUTO SETUP» button.

### Note

- The clock phase may shift even if it has completed without any incident. In such cases, adjust the [POSITION] menu → [CLOCK PHASE] (➔ page 60).
- Automatic adjustment may not work depending on the model of the computer and the input signal. And, it may not work properly when the input signal is a blurred-edge image or a dark image.
- Images may be disrupted for a few seconds during automatic adjustment, but it is not a malfunction.
- Adjustment is required for each input signal.
- Automatic adjustment can be canceled by pressing the <MENU> button during the automatic adjustment operation.
- If the automatic setup function is used while moving images are being input, the adjustment may not be performed properly even for an RGB signal that can use automatic setup.

## Using the «SCREEN ADJ» button

The [SCREEN ADJUSTMENT] screen can be displayed.

You can correct the distortion of the projected image that occurs when the projector is installed tilted or when the screen is tilted or curved.

SCREEN ADJ



button

- 1) Press the «SCREEN ADJ» button to display [KEYSTONE] individual adjustment screen.  
Or press the «SCREEN ADJ» button again to display [CORNER CORRECTION] individual adjustment screen.  
Or press the «SCREEN ADJ» button again to display [CURVED CORRECTION] individual adjustment screen.
  - If you have adjusted values in any of the individual adjustment screen, the individual adjustment screen is not switched to the next screen even if you press the <SCREEN ADJ> button.

[KEYSTONE]	Adjusts when the trapezoid of the projected image is distorted.
[CORNER CORRECTION]	Adjusts when the four corners of the projected image are distorted.
[CURVED CORRECTION]	Adjusts when the linearity is not uniform or the projected image is curved distortion.

- 2) Press «ENTER» button to select an item.
  - The items will switch each time you press the button.
- 3) Press ▲▼◀▶ to adjust the value.

**Note**

- One of [KEYSTONE], [CORNER CORRECTION] and [CURVED CORRECTION] setting value is valid.
- For more details, refer to the [POSITION] menu → [SCREEN ADJUSTMENT]. (➔ page 56)

**Using the digital zoom function**

(Only for still image-based RGB signals/still image-based HDMI signals.)

You can enlarge images. You can also change the location of the images to be enlarged.

D.ZOOM+



D.ZOOM-



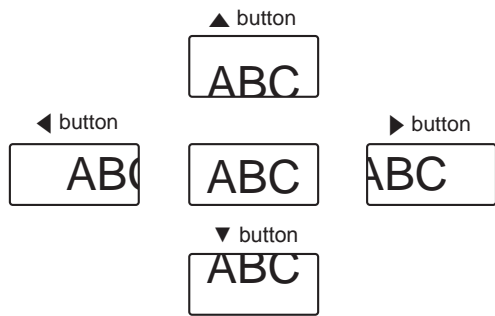
**buttons**

1) Press the <D.ZOOM+> button/<D.ZOOM-> button.

- The moving screen is displayed when executing the remote control operation, and the [DIGITAL ZOOM] individual adjustment screen is not displayed.
- The [DIGITAL ZOOM] individual adjustment screen is displayed when executing the menu operation. For details, refer to [DISPLAY OPTION] → [OTHER FUNCTIONS]. (➔ page 69)

2) Press the following buttons to move the location of the image or adjust the magnification.

Operation menu/Buttons	Operation	Adjustment
<p>Moving screen</p> <p>Remote control operation button</p>	Press the ▲ button.	Moves the image to the bottom.
	Press the ▼ button.	Moves the image to the top.
	Press the ◀ button.	Moves the image to the right.
	Press the ▶ button.	Moves the image to the left.
	Press the <D.ZOOM+> button.	Increases magnification.
	Press the <D.ZOOM-> button.	Decreases magnification.



Screen display position after the button operation

**Note**

- The magnification is not displayed in the moving screen.
- The digital zoom function is canceled if the input signal changes during a digital zoom.
- During a digital zoom, the freeze function is disabled.
- The digital zoom function may not work properly for some still image-based signals.

## Using the presentation timer function

The presentation timer function can be operated.

Presentations, etc. can be performed while checking the elapsed time or time remaining in the preset time.

P-TIMER



button

- 1) Press the «P-TIMER» button.
  - The count is started.
  - The elapsed time or the remaining time is displayed at the bottom right of the projected image.
- 2) Press the «P-TIMER» button again.
  - The count is stopped.
- 3) Press the «P-TIMER» button again.
  - The count is resumed.

### Note

- The presentation timer is ended by holding the <P-TIMER> button down for at least three seconds.
- For details such as presentation timer function settings, refer to [DISPLAY OPTION] menu → [P-TIMER] (➡ page 67).

## Using the «FUNCTION» button

Some operations in the menu can be assigned to the <FUNCTION> button on the remote control so that it can be used as an easy shortcut button.

FUNCTION



button

- 1) Press the «FUNCTION» button.

### To assign functions to the «FUNCTION» button

- 1) Press the <MENU> button on the control panel or the remote control to display the menu items (main menu, sub menu, or details menu) you want to assign.
  - Refer to “Navigating through the menu” (➡ page 48) for the operation of the on-screen menu.
- 2) Press and hold the «FUNCTION» button for three seconds or more.

### Note

- After settings have been completed, the assigned menu item (main menu, sub-menu, or details menu) will be displayed in [ASSIGNED FUNCTION] of the operation guide under the menu.
- Assignment of the function is performed from the [PROJECTOR SETUP] menu → [FUNCTION BUTTON] (➡ page 74) when deallocating functions.

## Setting the ID number of the remote control

---

When you use the system with multiple projectors, you can operate all the projectors simultaneously or each projector individually by using single remote control, if unique ID number is assigned to each projector.

After setting the ID number of the projector, set the same ID number to the remote control.

The factory default ID number of the projector is set to [ALL]. When using a single projector, press the <<ID ALL>> button on the remote control. Also, you can control a projector by pressing the <<ID ALL>> button on the remote control even if you do not know the projector ID.

ID SET ID ALL



buttons

- 1) Press the <<ID SET>> button.
- 2) Within five seconds, press and set the one-digit or two-digit ID number set on the projector using the number (<1> - <6>) buttons.
  - If you press the <ID ALL> button, you can control the projectors regardless of the ID number setting of the projector.

### Attention

---

- Since the ID number of the remote control can be set without the projector, do not press the <ID ALL> button on the remote control carelessly. If the <ID SET> button is pressed and no number (<1> - <6>) buttons are pressed within five seconds, the ID number returns to its original value before the <ID SET> button was pressed.
- The ID number set on the remote control will be stored unless it is set again. However, it will be erased if the remote control is left with dead batteries. Set the same ID number again when the batteries are replaced.

### Note

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- Set the ID number of the projector from the [PROJECTOR SETUP] menu → [PROJECTOR ID]. (➡ page 70)

# Chapter 4 Settings

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This chapter describes the settings and the adjustments you can make using the on-screen menu.

# Menu navigation

The on-screen menu (Menu) is used to perform various settings and adjustments of the projector.

## Navigating through the menu

### Operating procedure

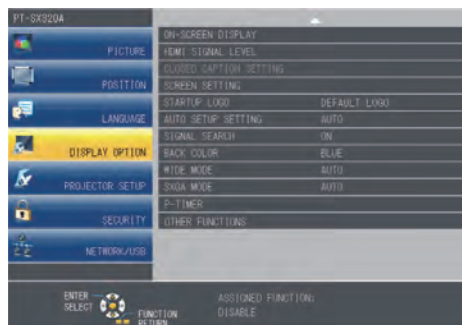
#### MENU



- 1) Press the **«MENU»** button on the remote control or the control panel.
  - The main menu screen appears.



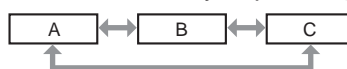
- 2) Press **▲▼** to select an item from the main menu.
  - The selected item is highlighted in yellow.



- 3) Press the **«ENTER»** button.
  - The sub-menu items of the selected main menu are displayed.



- 4) Press **▲▼** to select a sub-menu, and press **◀▶** or the **«ENTER»** button to change or adjust settings.
  - Some items will switch in order as follows each time you press **◀▶**.



- For some items, press **◀▶** to display an individual adjustment screen with a bar scale as shown below.





**Note**

- Pressing the <MENU> button while the menu screen is displayed to return the previous menu. You can operate in the same way by pressing the <RETURN> button.
- Some items may not be adjusted or used for certain signal formats to be input to the projector. The menu items that cannot be adjusted or used are shown in gray characters, and they cannot be selected. [FRAME LOCK] may not be displayed depending on the input signal.
- Some items can be adjusted even if signals are not input.
- Individual adjustment screen is cleared automatically if no operation is performed for approximately five seconds.
- For menu items, refer to “Main menu” (➔ page 49) and “Sub menu” (➔ page 50).

**Resetting adjustment values to the factory default**

If the <DEFAULT> button on the remote control is pressed, the values adjusted in the menu items are restored to the factory default settings.

DEFAULT



button

1) Press the <DEFAULT> button on the remote control.








**Note**

- You cannot reset all the settings to the factory default at a time.
- To reset all the settings adjusted in the sub-menu item to the factory default at a time, execute the [PROJECTOR SETUP] menu → [INITIALIZE ALL]. (➔ page 76)
- Some items cannot be reset by pressing the <DEFAULT> button. Adjust each item manually.

**Main menu**

The following items are in the main menu.

When a main menu item is selected, the screen changes to a sub-menu selection screen.

Main menu item		Page
	[PICTURE]	52
	[POSITION]	56
	[LANGUAGE]	62
	[DISPLAY OPTION]	63
	[PROJECTOR SETUP]	70
	[SECURITY]	77
	[NETWORK/USB]	80

## Sub-menu

The sub-menu of the selected main menu item is displayed, and you can set and adjust items in the sub-menu.

### [PICTURE]

Sub-menu item	Factory default	Page
[PICTURE MODE]	[DYNAMIC]	52
[CONTRAST]	[0]	52
[BRIGHTNESS]	[0]	52
[COLOR] <sup>1</sup>	[0]	53
[TINT] <sup>1</sup>	[0]	53
[SHARPNESS]	[+8]	53
[COLOR TEMPERATURE]	[DEFAULT]	53
[ADVANCED MENU]	-	54
[DAYLIGHT VIEW]	[AUTO]	54
[NOISE REDUCTION] <sup>2</sup>	[OFF]	54
[TV-SYSTEM] <sup>2</sup>	[AUTO]	55
[RGB/YPbPr] <sup>3</sup>	[AUTO]	55

\*1 Only for movie-based signals.

\*2 Only when the <VIDEO IN> terminal is selected.

\*3 Only when the <COMPUTER IN> / <HDMI IN> terminal is selected.

### Note

- The factory default settings may vary depending on the picture mode.

### [POSITION]

Sub-menu item	Factory default	Page
[REALTIME KEYSTONE]	[ON]	56
[SCREEN ADJUSTMENT]	-	56
[SHIFT]	-	59
[DOT CLOCK] <sup>*1</sup>	[0]	59
[CLOCK PHASE] <sup>*1</sup>	[0]	60
[OVER SCAN]	-	60
[ASPECT]	[NORMAL] <sup>*2</sup>	60
[FRAME LOCK] <sup>*1</sup>	[ON]	61

\*1 Only for still image signals

\*2 Depends on the signal input.

### [LANGUAGE]

Details (➔ page 62)

### [DISPLAY OPTION]

Sub-menu item	Factory default	Page
[ON-SCREEN DISPLAY]	-	63
[HDMI SIGNAL LEVEL]	-	64
[CLOSED CAPTION SETTING]	-	64
[SCREEN SETTING]	-	65
[STARTUP LOGO]	[DEFAULT LOGO]	66
[AUTO SETUP SETTING]	[AUTO]	66
[SIGNAL SEARCH]	[ON]	66
[BACK COLOR]	[BLUE]	67
[WIDE MODE]	[AUTO]	67
[SXGA MODE]	[AUTO]	67
[P-TIMER]	-	67
[OTHER FUNCTIONS]	-	69

**[PROJECTOR SETUP]** 

Sub-menu item	Factory default	Page
[STATUS]	-	70
[COMPUTER INPUT SETTING]	[RGB/YPbPr]	70
[PROJECTOR ID]	[ALL]	70
[INITIAL START UP]	[LAST MEMORY]	71
[PROJECTION METHOD]	[AUTO]	71
[LAMP POWER]	[NORMAL]	71
[LAMP RUNTIME]	[0 H]	71
[ECO MANAGEMENT]	-	72
[EMULATE]	-	73
[FUNCTION BUTTON]	-	74
[AUDIO SETTING]	-	74
[TEST PATTERN]	-	75
[FILTER COUNTER]	-	76
[INITIALIZE ALL]	-	76

**[SECURITY]** 

Sub-menu item	Factory Default	Page
[PASSWORD]	[OFF]	77
[PASSWORD CHANGE]	-	77
[TEXT DISPLAY]	[OFF]	78
[TEXT CHANGE]	-	78
[MENU LOCK]	[OFF]	78
[MENU LOCK PASSWORD]	-	78
[CONTROL DEVICE SETUP]	-	79

**[NETWORK/USB]** 

Sub-menu item	Factory default	Page
[NAME CHANGE]	-	80
[MEMORY VIEWER LIGHT]	-	80
[STATUS]	-	82
[INITIALIZE]	-	82

**Note**

- Some items may not be adjusted or used for certain signal formats to be input to the projector.  
The menu items that cannot be adjusted or used are shown in gray characters, and they cannot be selected.
- Sub-menu items and factory default settings vary depending on the selected input terminal.

## [PICTURE] menu

On the menu screen, select [PICTURE] from the main menu, and select an item from the sub-menu. Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.

### [PICTURE MODE]

You can switch to the desired picture mode suitable for the image source and the environment in which the projector is used.

- 1) Press ▲▼ to select [PICTURE MODE].
- 2) Press ◀▶ or the «ENTER» button.
  - The [PICTURE MODE] individual adjustment screen is displayed.
- 3) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[STANDARD]	The light output is maximized for use in bright areas.
[BLACKBOARD]	The image becomes suitable for projecting on a blackboard.
[WHITE BOARD]	The image becomes suitable for projecting on a white board.
[CINEMA] <sup>*1</sup>	The image becomes suitable for movie contents.
[NATURAL] <sup>*2</sup>	The image becomes suitable for using in low-light areas.
[DYNAMIC]	The image becomes suitable for moving images in general.

\*1 Only for movie-based input signals

\*2 Only for still image input signals

### [CONTRAST]

You can adjust the contrast of the colors.

- 1) Press ▲▼ to select [CONTRAST].
- 2) Press ◀▶ or the «ENTER» button.
  - The [CONTRAST] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the level.

Operation	Adjustment	Range of adjustment
Press the ▶ button.	Brightens the screen and makes the color of image deeper.	-32 ~ +32
Press the ◀ button.	Darkens the screen and makes the color of image lighter.	

#### Attention

- Adjust [BRIGHTNESS] first when you need to adjust [BRIGHTNESS] and [CONTRAST].

### [BRIGHTNESS]

You can adjust the dark (black) part of the projected image.

- 1) Press ▲▼ to select [BRIGHTNESS].
- 2) Press ◀▶ or the «ENTER» button.
  - The [BRIGHTNESS] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the level.

Operation	Adjustment	Range of adjustment
Press the ▶ button.	Increases the brightness of the dark (black) parts of the screen.	-32 ~ +32
Press the ◀ button.	Reduces the brightness of the dark (black) parts of the screen.	

**[COLOR]**

(Only for movie-based signal input)

You can adjust the color saturation of the projected image.

- 1) Press ▲▼ to select [COLOR].
- 2) Press ◀▶ or the «ENTER» button.
  - The [COLOR] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the level.

Operation	Adjustment	Range of adjustment
Press the ▶ button.	Deepens colors.	-32 ~ +32
Press the ◀ button.	Weakens colors.	

**[TINT]**

(Only for NTSC/NTSC4.43 signal when input movie-based signal and the <VIDEO IN> terminal or the <COMPUTER IN> terminal is selected)

You can adjust the skin tone in the projected image.

- 1) Press ▲▼ to select [TINT].
- 2) Press ◀▶ or the «ENTER» button.
  - The [TINT] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the level.

Operation	Adjustment	Range of adjustment
Press the ▶ button.	Adjusts skin tone toward greenish color.	-32 ~ +32
Press the ◀ button.	Adjusts skin tone toward reddish purple.	

**[SHARPNESS]**

You can adjust the sharpness of the projected image.

- 1) Press ▲▼ to select [SHARPNESS].
- 2) Press ◀▶ or the «ENTER» button.
  - The [SHARPNESS] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the level.

Operation	Adjustment	Range of adjustment
Press the ▶ button.	Contours become sharper.	0 ~ +15
Press the ◀ button.	Contours become softer.	

**Note**

- [SHARPNESS] will be invalid when [DAYLIGHT VIEW] is set to [AUTO] or [ON].

**[COLOR TEMPERATURE]**

You can switch the color temperature if the white areas of the projected image are bluish or reddish.

- 1) Press ▲▼ to select [COLOR TEMPERATURE].
- 2) Press ◀▶ or the «ENTER» button.
  - The [COLOR TEMPERATURE] individual adjustment screen is displayed.
- 3) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[DEFAULT]	Factory default setting.
[HIGH]	Select so that images become natural.
[LOW]	

**[ADVANCED MENU]**

You can perform more advanced image adjustment.

- 1) Press ▲▼ to select [ADVANCED MENU].
- 2) Press the <ENTER> button.
  - The [ADVANCED MENU] screen is displayed.
- 3) Press ▲▼ to select one item among [CONTRAST R] ~ [BRIGHTNESS B].
- 4) Press ◀▶ or the <ENTER> button.
  - The individual adjustment screen of items are displayed.
- 5) Press ◀▶ to adjust the value.

Items	Operation	Adjustment	Adjustment range
[CONTRAST R]	Press the ▶ button.	Emphasizes red in highlight areas.	-32 ~ +32
	Press the ◀ button.	Deemphasizes red in highlight areas.	
[CONTRAST G]	Press the ▶ button.	Emphasizes green in highlight areas.	-32 ~ +32
	Press the ◀ button.	Deemphasizes green in highlight areas.	
[CONTRAST B]	Press the ▶ button.	Emphasizes blue in highlight areas.	-32 ~ +32
	Press the ◀ button.	Deemphasizes blue in highlight areas.	
[BRIGHTNESS R]	Press the ▶ button.	Emphasizes red in shadow areas.	-32 ~ +32
	Press the ◀ button.	Deemphasizes red in shadow areas.	
[BRIGHTNESS G]	Press the ▶ button.	Emphasizes green in shadow areas.	-32 ~ +32
	Press the ◀ button.	Deemphasizes green in shadow areas.	
[BRIGHTNESS B]	Press the ▶ button.	Emphasizes blue in shadow areas.	-32 ~ +32
	Press the ◀ button.	Deemphasizes blue in shadow areas.	

**[DAYLIGHT VIEW]**

You can correct the image to the optimal vividness even if it is projected under a bright light.

- 1) Press ▲▼ to select [DAYLIGHT VIEW].
- 2) Press ◀▶ or the <ENTER> button.
  - The [DAYLIGHT VIEW] individual adjustment screen is displayed.
- 3) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[AUTO]	The brightness of the installation environment is detected by the luminance sensor, and the vividness of the image is automatically corrected.
[ON]	Enables [DAYLIGHT VIEW].
[OFF]	No correction.

**Note**

- When [PROJECTION METHOD] (▶ page 71) is set to [REAR/DESK] or [REAR/CEILING], [AUTO] cannot be selected.
- When objects, etc. are placed on the top of the projector, the illuminance sensor enters the shadow and the [AUTO] mode may not function properly.
- When [DAYLIGHT VIEW] is set to [AUTO] or [ON], the [SHARPNESS] cannot be adjusted.

**[NOISE REDUCTION]**

(Only when the <VIDEO IN> terminal or <COMPUTER IN> terminal is selected)

You can reduce noises when the input image is degraded and noise is occurring in the image signal.

- 1) Press ▲▼ to select [NOISE REDUCTION].
- 2) Press ◀▶ or the <ENTER> button.
  - The [NOISE REDUCTION] individual adjustment screen is displayed.

## 3) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[OFF]	No correction.
[ON]	Enables [NOISE REDUCTION].

**Attention**

- When this is set for an input signal with less noise, the image may look different from what it originally was. In such a case, set it to [OFF].

**[TV-SYSTEM]**

(Only when the <VIDEO IN> terminal or <COMPUTER IN> terminal is selected)

The projector will automatically detect the input signal, but you can set the color system manually when an unstable signal is input. Set the color system to match the input signal.

## 1) Press ▲▼ to select [TV-SYSTEM].

## 2) Press ◀▶ or the &lt;ENTER&gt; button.

- The [TV-SYSTEM] individual adjustment screen is displayed.

## 3) Press ◀▶ to select the color system.

- The items will switch each time you press the button.
- Select among [AUTO], [NTSC], [NTSC4.43], [PAL], [PAL-M], [PAL-N], [PAL60] and [SECAM].
- Set it to [AUTO] normally. (Setting [AUTO] will automatically select [NTSC], [NTSC4.43], [PAL], [PAL-M], [PAL-N], [SECAM] or [PAL60].)

**[RGB/YP<sub>B</sub>Pr]**

Set it to [AUTO] normally. If images are not displayed correctly when this is set to [AUTO], set either [RGB] or [YP<sub>B</sub>Pr] in accordance with the input signal.

1) Press ▲▼ to select [RGB/YP<sub>B</sub>Pr].

## 2) Press ◀▶ or the &lt;ENTER&gt; button.

- The [RGB/YP<sub>B</sub>Pr] individual adjustment screen is displayed.

## 3) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[AUTO]	The sync signal automatically selects the signal [RGB]/[YP <sub>B</sub> Pr].
[RGB]	Select it for RGB signal input.
[YP <sub>B</sub> Pr]	Select it for YP <sub>B</sub> Pr signal input.

**When the <COMPUTER IN> terminal is selected**

- For 525i (480i), 625i (576i), 525p (480p) and 625p (576p) input  
Select [AUTO] or [RGB]
- For other movie-based signal input  
Select [AUTO], [RGB] or [YP<sub>B</sub>Pr].

**When the <HDMI IN> terminal is selected**

- For 525p (480p) and 625p (576p) input  
Select [AUTO] or [RGB]
- For other movie-based signal input  
Select [AUTO], [RGB] or [YP<sub>B</sub>Pr].

**Note**

- Refer to "List of compatible signals" (➔ page 112) for the types of video signals that can be used with the projector.
- The signal selection may not function properly depending on connected devices.

## [POSITION] menu

On the menu screen, select [POSITION] from the main menu, and select an item from the sub-menu. Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.

### [REALTIME KEYSTONE]

The projector can correct the distortion of the projected image automatically when the projector is installed tilted.

- 1) Press ▲▼ to select [REALTIME KEYSTONE].
- 2) Press ◀▶ or the «ENTER» button.
  - The [REALTIME KEYSTONE] individual adjustment screen is displayed.
- 3) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[ON]	Executes the realtime keystone function automatically.
[OFF]	Does not execute the realtime keystone function automatically.

#### Note

- Sometimes the realtime keystone function may not correct the image properly, the operation of the [SCREEN ADJUSTMENT] is required.
- The [REALTIME KEYSTONE] function cannot work when the [FRONT/CEILING] or the [REAR/CEILING] feature is selected in [PROJECTION METHOD] in the [PROJECTOR SETUP] menu.

### [SCREEN ADJUSTMENT]

You can correct the distortion of the projected image that occurs when the projector is installed tilted or when the screen is tilted or curved.

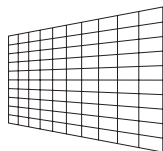
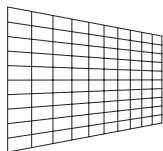
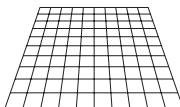
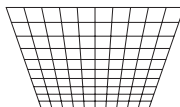
- 1) Press ▲▼ to select [SCREEN ADJUSTMENT].
- 2) Press the «ENTER» button.
  - The [SCREEN ADJUSTMENT] screen is displayed.
- 3) Press ▲▼ to select one item to adjust.

[KEYSTONE]	Adjusts when the trapezoid of the projected image is distorted.
[CORNER CORRECTION]	Adjusts when the four corners of the projected image are distorted.
[CURVED CORRECTION]	Adjusts when the linearity is not uniform or the projected image is curved distortion.

#### Setting [KEYSTONE]

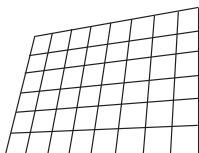
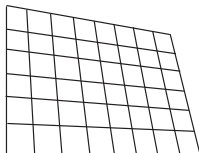
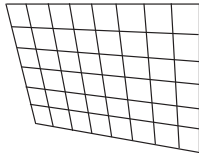
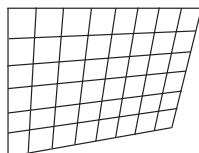
- 1) Press ▲▼ to select [SCREEN ADJUSTMENT].
- 2) Press the «ENTER» button.
  - The [SCREEN ADJUSTMENT] screen is displayed.
- 3) Press ▲▼ to select [KEYSTONE].
- 4) Press the «ENTER» button.
  - The [KEYSTONE] individual adjustment screen is displayed.
- 5) Press ▲▼◀▶ to adjust the item.



Items	Operation	Adjustment		
[H]	Press the ◀ button.	Left side will be smaller.		
	Press the ▶ button.	Right side will be smaller.		
[V]	Press the ▲ button.	Upper will be smaller.		
	Press the ▼ button.	Lower will be smaller.		

### Setting [CORNER CORRECTION]

- 1) Press ▲▼ to select [SCREEN ADJUSTMENT].
- 2) Press the ◀ENTER▶ button.
  - The [SCREEN ADJUSTMENT] screen is displayed.
- 3) Press ▲▼ to select [CORNER CORRECTION].
- 4) Press the ◀ENTER▶ button.
  - The [CORNER CORRECTION] screen is displayed.
- 5) Press ▲▼ to select the item to adjust, then press the ◀ENTER▶ button.
  - The [CORNER CORRECTION] individual adjustment screen is displayed.
- 6) Press ▲▼◀▶ to adjust.

[CORNER CORRECTION]			
[UPPER LEFT]	[UPPER RIGHT]	[LOWER LEFT]	[LOWER RIGHT]
			

### Setting [CURVED CORRECTION]

- 1) Press ▲▼ to select [SCREEN ADJUSTMENT].
- 2) Press the ◀ENTER▶ button.
  - The [SCREEN ADJUSTMENT] screen is displayed.
- 3) Press ▲▼ to select [CURVED CORRECTION].
- 4) Press the ◀ENTER▶ button.
  - The [CURVED CORRECTION] screen is displayed.
- 5) Press ▲▼ to select one item to adjust.

[KEYSTONE]	Adjusts when the trapezoid of the projected image is distorted.
[ARC]	Adjusts when the radian of the projected image is distorted.

- 6) Press the ◀ENTER▶ button.
  - The [KEYSTONE] or [ARC] individual adjustment screen is displayed.

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**Adjusting [KEystone]**


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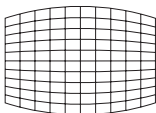
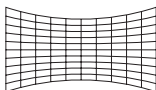
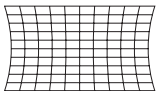
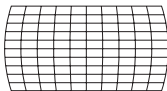
## 1) Press ▲▼◀▶ to adjust.

- For details, please refer to “Setting [KEYSTONE]” → “Adjusting [KEYSTONE]” (➡ page 56).
- 

**Adjusting [ARC]**


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## 1) Press ▲▼◀▶ to adjust.

Items	Operation	Adjustment		
[H]	Press the ◀ button.	The top and the bottom of horizontal line will be bulge.		
	Press the ▶ button.	The top and the bottom of horizontal line will be dent.		
[V]	Press the ▲ button.	The left and the right of vertical line will be dent.		
	Press the ▼ button.	The left and the right of vertical line will be bulge.		

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**Note**


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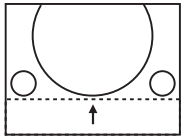
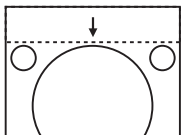
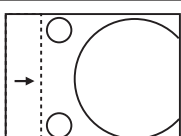
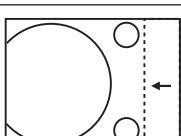
- One of [KEYSTONE], [CORNER CORRECTION] and [CURVED CORRECTION] setting value is valid. When [KEYSTONE], [CORNER CORRECTION] or [CURVED CORRECTION] adjustment is finished, you adjust the others, the adjusted value will be reset.
- Press the <SCREEN ADJ> button on the remote control when the [KEYSTONE], [CORNER CORRECTION] or [CURVED CORRECTION] screen is displaying, it will switch to the next adjustment screen.
- When the [CORNER CORRECTION] individual adjustment screen is displaying, the individual adjustment screen of the next corner can also be displayed by pressing the <ENTER> button.
- Correcting up to  $\pm 30^\circ$  for the tilt in the vertical direction and  $\pm 30^\circ$  for the tilt in the horizontal direction are available for adjustments with [KEYSTONE]. However, the image quality will degrade and it will get harder to focus with more correction. Install the projector so that the correction will be as small as possible.
- Screen size will also change when [KEYSTONE] is used to perform various adjustments.
- Aspect ratio of the image size may shift depending on the correction.

**[SHIFT]**

(Only for RGB signals and YCbCr/YPbPr signals input)

Move the image position vertically or horizontally if the image position projected on the screen is shifted even when the relative position of the projector and the screen is installed correctly.

- 1) Press ▲▼ to select [SHIFT].
- 2) Press the «ENTER» button.
  - The [SHIFT] screen is displayed.
- 3) Press ▲▼◀▶ to adjust the position.

Orientation	Operation	Adjustment	
Vertical (up and down) adjustment	Press the ▲ button.	The image position moves up.	
	Press the ▼ button.	The image position moves down.	
Horizontal (right and left) adjustment	Press the ▶ button.	The image position moves to the right.	
	Press the ◀ button.	The image position moves to the left.	

**Note**

- Depending on the input signal, if the adjustment of [SHIFT] exceeds the effective adjustment range of the input signal, the position of the image cannot be changed. Please adjust [SHIFT] within an effective adjustment range.

**[DOT CLOCK]**

(Only for RGB signals and YCbCr/YPbPr signals (except for SYNC ON GREEN) input)

Use this function to adjust and minimize the effect of interference caused by projection of patterns consisting of vertical stripes.

The projection of the striped pattern may cause cyclic patterns (noise). Adjust so that the amount of interference is at a minimum. You can adjust the dot clock of image.

- 1) Press ▲▼ to select [DOT CLOCK].
- 2) Press ◀▶ or the «ENTER» button.
  - The [DOT CLOCK] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the value.
  - The adjustment values are [-32] to [+32].

**Attention**

- Set it before adjusting [CLOCK PHASE].

**Note**

- Depending on the input signal, if the adjustment of [DOT CLOCK] exceeds the effective adjustment range of the input signal, the position of the image cannot be changed. Please adjust [DOT CLOCK] within an effective adjustment range.

## [CLOCK PHASE]

(Only for RGB signals and YCbCr/YPbPr signals input)

You can adjust to achieve an optimal image when there is a flickering image or smeared outlines.

- 1) Press ▲▼ to select [CLOCK PHASE].
- 2) Press ◀▶ or the «ENTER» button.
  - The [CLOCK PHASE] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust.
  - Adjustment value will change between [-16] and [+16]. Adjust so that the amount of interference is at a minimum.

### Note

- Certain signals may not be adjustable.
- Optimal value may not be achieved if the output from the input computer is unstable.
- To project a signal with dot clock frequency with 162 MHz or higher, noise may not disappear even if [CLOCK PHASE] is adjusted.

## [OVER SCAN]

(Only for movie-based RGB signals, YCbCr/YPbPr signals, movie-based HDMI signals, VIDEO signals and Y/C signals input)

Use this function when characters or pictures are cropped near the periphery of the projected image.

- 1) Press ▲▼ to select [OVER SCAN].
- 2) Press ◀▶ or the «ENTER» button.
  - The [OVER SCAN] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the level.
  - The adjustment values are [0] to [+3].

## [ASPECT]

You can switch the aspect ratio of the image.

The aspect ratio is switched within the screen range selected in [SCREEN FORMAT] of [DISPLAY OPTION] menu → [SCREEN SETTING]. Set [SCREEN FORMAT] first. (➡ page 65)

- 1) Press ▲▼ to select [ASPECT].
- 2) Press ◀▶ or the «ENTER» button.
  - The [ASPECT] individual adjustment screen is displayed.
- 3) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[AUTO]*1	The aspect ratio is automatically switched to the optimum aspect ratio when an aspect ratio identifier is included in the input signal.
[NORMAL]	Displays images without changing the aspect ratio of the input signals.
[WIDE]	Displays images with the aspect ratio converted to 16:9 when standard signals*2 are input. Display images without changing the aspect ratio when wide-screen signals*3 are input.
[H FIT]	Displays images using the entire width of the screen. When signals have the aspect ratio vertically longer than the aspect ratio of the screen selected in [SCREEN FORMAT], the images are displayed with the top and the bottom parts cut off.
[V FIT]	Displays the height of the panel pixels vertically without changing the aspect ratio when wide-screen signals are input. When signals have the aspect ratio horizontally longer than the aspect ratio of the screen, the images are displayed with the right and the left parts cut off.
[FULL]	The image is projected using all the panel (screen) pixels. The input signals are converted to the aspect ratio of the panel (screen).
[NATIVE]	Displays images without changing the resolution of the input signals.

\*1 Only for video signal (NTSC) input

\*2 Standard signals are input signals with an aspect ratio of 4:3 or 5:4.

\*3 Wide-screen signals are input signals with an aspect ratio of 16:10, 16:9 or 15:9.

**Note**

- The image size may be switched abnormally when [AUTO] is selected, please set to [NORMAL] or [WIDE] according to the input signal.
- Some size modes are not available for certain types of input signals.
- If an aspect ratio which is different from the aspect ratio for the input signals is selected, the images will appear differently from the originals. Be careful of this when selecting the aspect ratio.
- If using the projector in places such as cafes or hotels to display programs for a commercial purpose or for public presentation, note that adjusting the aspect ratio or using the zoom function to change the screen images may be an infringement of the rights of the original copyright owner for that program under copyright protection laws. Take care when using a function of the projector such as the aspect ratio adjustment and the zoom function.
- If conventional (normal) 4:3 images which are not wide-screen images are displayed on a wide screen, the edges of the images may not be visible or they may become distorted. Such images should be viewed as with an aspect ratio of 4:3 in the original format intended by the creator of the images.

**[FRAME LOCK]**

(Only for still image RGB signals input)

This setting is available for specific computer signals. Set when the movie is distorted.

- 1) Press ▲▼ to select [FRAME LOCK].
- 2) Press ◀▶ or the <ENTER> button.
  - The [FRAME LOCK] individual adjustment screen is displayed.
- 3) Press ◀▶ to switch the [FRAME LOCK].
  - The items will switch each time you press the button.

[ON]	Enables the frame lock.
[OFF]	Disables the frame lock.

## [LANGUAGE] menu

On the menu screen, select [LANGUAGE] from the main menu, and display the sub-menu. Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.

### Changing the display language

You can select the language of the on-screen display.

- 1) Press ▲▼ to select the display language and press the <<ENTER>> button.



- Various menus, settings, adjustment screens, control button names, etc., are displayed in the selected language.
- The language can be changed to English, German, French, Italian, Spanish, Portuguese, Dutch, Swedish, Finnish, Norwegian, Danish, Polish, Hungarian, Romanian, Czech, Russian, Turkish, Arabic, Kazakh, Vietnamese, Chinese, Korean, Japanese and Thai.

#### Note

- The on-screen display language of the projector is set to English by default and when [INITIALIZE ALL] (➔ page 76) in [PROJECTOR SETUP] is executed.

## [DISPLAY OPTION] menu

On the menu screen, select [DISPLAY OPTION] from the main menu, and select an item from the sub-menu. Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.

### [ON-SCREEN DISPLAY]

Set the on-screen display.

#### Setting [INPUT GUIDE]

You can set the display method of the name of the input terminal displayed on the top right of the projection screen.

- 1) Press ▲▼ to select [ON-SCREEN DISPLAY].
- 2) Press the «ENTER» button.
  - The [ON-SCREEN DISPLAY] screen is displayed.
- 3) Press ▲▼ to select [INPUT GUIDE].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[DETAILED]	Displays the name of input terminal and input signal graphically.
[OFF]	Disables the input guide.
[SIMPLE]	Displays the name of input terminal and input signal.

### [OSD POSITION]

Set the position of the menu screen (OSD).

- 1) Press ▲▼ to select [ON-SCREEN DISPLAY].
- 2) Press the «ENTER» button.
  - The [ON-SCREEN DISPLAY] screen is displayed.
- 3) Press ▲▼ to select [OSD POSITION].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button as following:  
[CENTER] → [UPPER LEFT] → [UPPER RIGHT] → [LOWER LEFT] → [LOWER RIGHT] → [CENTER] → ...

**[WARNING MESSAGE]**

Set the display/hide of the warning message.

- 1) Press ▲▼ to select [ON-SCREEN DISPLAY].
- 2) Press the «ENTER» button.
  - The [ON-SCREEN DISPLAY] screen is displayed.
- 3) Press ▲▼ to select [WARNING MESSAGE].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[ON]	Displays the warning message.
[OFF]	Hides the warning message.

**Note**

- When [WARNING MESSAGE] is set to [OFF], the warning message will not be displayed on the projected image even if a warning status such as lamp replacement, temperature warning or filter replacement is detected.

**[HDMI SIGNAL LEVEL]**

Switch the setting when the external device is connected to the <HDMI IN> terminal of the projector and the image is not projected correctly.

- 1) Press ▲▼ to select [HDMI SIGNAL LEVEL].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[AUTO]	Sets the signal level automatically.
[64-940]	Select when the HDMI terminal of an external device (such as a blu-ray player) is connected to the <HDMI IN> terminal.
[0-1023]	Select when the DVI terminal output of an external device (such as a computer) is connected to the <HDMI IN> terminal via a conversion cable or similar cable. Select also when the HDMI terminal output of a computer or other device is connected to the <HDMI IN> terminal.

**Note**

- The optimal setting varies depending on the output setting of the connected external device. Refer to the operation instruction of the external device regarding the output of the external device.
- The displayed signal level is assumed when the input is 30 bits.

**[CLOSED CAPTION SETTING] (Only for NTSC, 480i YC<sub>B</sub>C<sub>R</sub> input)**

Set the closed caption.

**Selecting the closed caption display**

- 1) Press ▲▼ to select [CLOSED CAPTION SETTING].
- 2) Press the «ENTER» button.
  - The [CLOSED CAPTION SETTING] screen is displayed.
- 3) Press ▲▼ to select [CLOSED CAPTION].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[ON]	Closed captions are displayed.
[OFF]	Closed captions are not displayed.

- When [ON] is selected, proceed to Step 5).

- 5) When the confirmation screen is displayed, press ◀▶ to select [OK], and press the «ENTER» button.



## Setting the closed caption mode

- 1) Press ▲▼ to select [CLOSED CAPTION SETTING].
- 2) Press the <ENTER> button.
  - The [CLOSED CAPTION SETTING] screen is displayed.
- 3) Press ▲▼ to select [MODE].
  - When [CLOSED CAPTION] is set to [OFF], [MODE] cannot be selected.
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[CC1]	Displays CC1 data.
[CC2]	Displays CC2 data.
[CC3]	Displays CC3 data.
[CC4]	Displays CC4 data.

### Note

- Closed caption is a function that displays text information of video signals mainly used in North America. Captions may not be displayed depending on the connected devices or contents being played back.
- [CLOSED CAPTION SETTING] can only be selected if an NTSC or 480i YC<sub>B</sub>C<sub>R</sub> signal is input.
- If [CLOSED CAPTION] is set to [ON], the brightness of image may be changed according to the external devices or the used content of the closed caption corresponding connection.
- If a closed caption signal of the selected mode is input, the security message set in the [SECURITY] menu → [TEXT DISPLAY] (▶ page 78) is not displayed.
- Closed captions are not displayed when the menu screen is displayed.

## [SCREEN SETTING]

Set the screen size.

Correct to the optimum image position for the set screen when changing the aspect ratio of a projected image. Set as necessary for the screen in use.

- 1) Press ▲▼ to select [SCREEN SETTING].
- 2) Press the <ENTER> button.
  - The [SCREEN SETTING] screen is displayed.
- 3) Press ▲▼ to select [SCREEN FORMAT].
- 4) Press ◀▶ to switch the [SCREEN FORMAT] item.
  - The items will switch each time you press the button.

[SCREEN FORMAT]	Description	Range when [SCREEN POSITION] is selected
[16:10]	The projected aspect ratio is 16:10.	Adjusts the vertical position. (Only for PT-SX320A/PT-SX300A)
[16:9]	The projected aspect ratio is 16:9.	Adjusts the vertical position.
[4:3]	The projected aspect ratio is 4:3.	Adjusts the horizontal position. (Only for PT-SW280A)

- 5) Press ◀▶ to adjust the [SCREEN POSITION].
  - The items will switch each time you press the button.

#### ■ When [SCREEN FORMAT] is [16:10]

[CENTER]	The image which aspect ratio is 16:10 will displayed in the center.
[HIGH]	The image which aspect ratio is 16:10 will displayed at the top.
[LOW]	The image which aspect ratio is 16:10 will displayed at the bottom.

#### ■ When [SCREEN FORMAT] is [16:9]

[CENTER]	The image which aspect ratio is 16:9 will displayed in the center.
[HIGH]	The image which aspect ratio is 16:9 will displayed at the top.
[LOW]	The image which aspect ratio is 16:9 will displayed at the bottom.

#### ■ When [SCREEN FORMAT] is [4:3]

[CENTER]	The image which aspect ratio is 4:3 will displayed at the center.
[LEFT]	The image which aspect ratio is 4:3 will displayed in the left.
[RIGHT]	The image which aspect ratio is 4:3 will displayed at the right.

## [STARTUP LOGO]

Set the logo display when the power is turned on.

- 1) Press ▲▼ to select [STARTUP LOGO].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[DEFAULT LOGO]	Displays the Panasonic logo.
[USER LOGO]	Displays the image registered by the user.
[OFF]	Disables the startup logo display.

### Note

- The startup logo will disappear in approximately 30 seconds.
- To create/register the [USER LOGO] image, use "Logo Transfer Software" included in the supplied CD-ROM.

## [AUTO SETUP SETTING]

Set the automatic execution of AUTO SETUP.

The screen display position or signal level can be adjusted automatically without pressing the <AUTO SETUP> button on the remote control on each occasion if you input unregistered signals frequently at meetings, etc.

- 1) Press ▲▼ to select [AUTO SETUP SETTING].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[AUTO]	Enables the auto setup function when switching signals.
[BUTTON]	Enables the auto setup function only when the <AUTO SETUP> button is pressed.

## [SIGNAL SEARCH]

When the power is turned on, this function automatically detects the terminal which signals are input and sets the function to switch.

- 1) Press ▲▼ to select [SIGNAL SEARCH].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[ON]	Enables input detection automatically.
[OFF]	Disables input detection automatically.

### Note

- If the [SIGNAL SEARCH] is set to [ON] when there is no signal input, press the <AUTO SETUP> button, this function automatically detects the terminal to which signals are input and then switches.

**[BACK COLOR]**

Set the display of the projected screen when there is no signal input.

- 1) Press ▲▼ to select [BACK COLOR].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[BLUE]	Displays the entire projection area in blue.
[BLACK]	Displays the entire projection area in black.
[DEFAULT LOGO]	Displays the Panasonic logo.
[USER LOGO]	Displays the image registered by the user.

**Note**

- To create/register the [USER LOGO] image, use “Logo Transfer Software” included in the supplied CD-ROM.

**[WIDE MODE]**

Using this function when the image is displayed incorrectly for the input signals.

- 1) Press ▲▼ to select [WIDE MODE].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[AUTO]	Displays by judging the signal automatically. Set to this mode normally.
[OFF]	When input the 4:3 signal.
[ON]	When input the wide signal.

**[SXGA MODE]**

This function is used if the whole projected image is not displayed when the resolution 1 280 x 1 024 dots of the SXGA signal is input.

- 1) Press ▲▼ to select [SXGA MODE].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[AUTO]	Displays by judging the signal automatically. Set to this mode normally.
[1 280x1 024]	Switches the item to [1 280x1 024] or [1 400x1 050] manually if the whole projected image is not displayed when SXGA signal is input.
[1 400x1 050]	

**[P-TIMER]**

Set and operate the presentation timer function.

**Setting the mode**

- 1) Press ▲▼ to select [P-TIMER].
- 2) Press the ◀ENTER▶ button.
  - The [P-TIMER] screen is displayed.
- 3) Press ▲▼ to select [MODE].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[COUNT UP]	Displays the elapsed time since the count was started.
[COUNT DOWN]	Displays the remaining time of the time set by [TIMER].

## Setting the countdown timer

- 1) Press ▲▼ to select [P-TIMER].
- 2) Press the «ENTER» button.
  - The [P-TIMER] screen is displayed.
- 3) Press ▲▼ to select [TIMER].
- 4) Press ◀▶ to set the time.
  - The time can be set in 1-minute increments from 1 to 180 minutes.
  - The factory default value is 10 minutes.

### Note

- [TIMER] is enabled when [MODE] is set to [COUNT DOWN].

## Using the presentation timer

- 1) Press ▲▼ to select [P-TIMER].
- 2) Press the «ENTER» button.
  - The [P-TIMER] screen is displayed.
- 3) Press ▲▼ to select the item, and press the «ENTER» button.

[START]	The count is started.
[STOP]	The count is stopped.
[RESTART]	The count is resumed.
[RESET]	The count is reset.

- When [START] or [RESTART] is selected, the elapsed time or the remaining time is displayed at the bottom right of the projected image.
  - When [STOP] is selected, the elapsed time or the remaining time when the count was stopped is displayed at the bottom right of the projected image.
  - When [RESET] is selected, proceed to Step 4).
- 4) Press the «MENU» button three times, then menu screen will disappear.
    - The P-TIMER function is cancelled.

### Note

- Presentation timer operations are also possible by the <P-TIMER> button on the remote control. (➔ page 45)
- The security message set in the [SECURITY] menu → [TEXT DISPLAY ] (➔ page 78) is not displayed when the elapsed time or remaining time is displayed.
- The elapsed time or remaining time are not displayed when the menu screen is displayed.
- The start time becomes "000:00" when [MODE] is set to [COUNT UP].
- When [MODE] is set to [COUNT DOWN], the start time becomes the value set at [TIMER].
- The time gauge turns clockwise when [COUNT UP] is set, and turns counterclockwise when [COUNT DOWN] is set.

## Ending the presentation timer

- 1) Press ▲▼ to select [P-TIMER].
- 2) Press the «ENTER» button.
  - The [P-TIMER] screen is displayed.
- 3) Press ▲▼ to select [EXIT].
- 4) Press the «ENTER» button.

## [OTHER FUNCTIONS]

You can perform some of the remote control button operations by using the sub-menu.

- 1) Press ▲▼ to select [OTHER FUNCTIONS].
- 2) Press the «ENTER» button.
  - The [OTHER FUNCTIONS] screen is displayed.
- 3) Press ▲▼ to select the item.


[AUTO SETUP]	Automatically adjust the resolution, the clock phase and the image position when analog RGB signals consisting of bitmap images such as computer signals are being input, or to automatically adjust the image position when HDMI signals are input. For details, refer to “Using the automatic setup function”. (➡ page 43)
[FREEZE]	The projected image is paused temporarily and the sound stopped regardless of the playback of the external equipment. Press the <MENU> button on the remote control to release this function. Also press the <RETURN> button or the <FREEZE> button on the remote control to release this function.
[AV MUTE]	Turn off audio and image when the projector is not used for a certain period of time. To release this function, press the <RETURN> button or the <AV MUTE> button on the remote control.
[DIGITAL ZOOM]	Enlarge images and move the image zoom position. For details, refer to “Using the digital zoom function”. (➡ page 44)

- 4) Press the «ENTER» button.

### Using the digital zoom function via the menu operation

(Only for still image-based RGB signals/still image-based HDMI signals)

- 1) Press ▲▼ to select [DIGITAL ZOOM].
- 2) Press the «ENTER» button.
  - The [DIGITAL ZOOM] individual adjustment screen is displayed.
- 3) Press ◀▶ to adjust the magnification.

Operation menu	Operation	Adjustment	Adjustment range
	Press the ▶ button.	Increases magnification.	1.0 ~ 3.0
	Press the ◀ button.	Decreases magnification.	

- 4) Press the «ENTER» button.
  - The moving screen is displayed.
- 5) Press ▲▼◀▶ to move the zoom position.
  - For details, refer to “Using the digital zoom function”. (➡ page 44)

#### Note

- Magnification can be set from 1.0x to 3.0x in 0.1 increments.
- The digital zoom function is canceled if the input signal changes during a digital zoom.
- During a digital zoom, the freeze function is disabled.
- The digital zoom function may not work properly for some still image-based signals.

## [PROJECTOR SETUP] menu

On the menu screen, select [PROJECTOR SETUP] from the main menu, and select an item from the sub-menu. Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.

### [STATUS]

Display the status of the projector.

- 1) Press ▲▼ to select [STATUS].
- 2) Press the ◀ENTER▶ button.
  - The [STATUS] screen is displayed.

[SIGNAL]	[NAME]	Displays the name of input signal.	
	[FREQUENCY]	Displays the scanning frequency of input signal.	
[RUNTIME]*1	[PROJECTOR]	Displays the current usage time of projector.	
	[LAMP]	[ECO]	Displays the lamp runtime when [LAMP POWER] is set to [ECO] by actual time.
		[NORMAL]	Displays the lamp runtime when [LAMP POWER] is set to [NORMAL] by actual time.
		[TOTAL]	Displays the total runtime of the lamp.
[SERIAL NUMBER]	[PROJECTOR]	Displays the serial number of the projector.	

\*1 The following conversion is required to calculate the rough estimate for lamp replacement.

Formula for lamp replacement time (rough estimate)	
$A \times 1 + B \times 4/5$	
• A :	Runtime which is displayed in [STATUS] screen → [RUNTIME] → [LAMP] → [NORMAL]
• B :	Runtime which is displayed in [STATUS] screen → [RUNTIME] → [LAMP] → [ECO]

### Note

- The “RUNTIME” displayed in the [STATUS] may be different from the actual times when a lamp unit that was attached to a different projector model is installed on this projector, or when the lamp unit that was attached to this projector is installed on a different projector model.
- The [SIGNAL] is shown in gray and the values are blank for [NETWORK] input.

### [COMPUTER INPUT SETTING]

Set the computer input signal.

- 1) Press ▲▼ to select [COMPUTER INPUT SETTING].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[RGB/YPbPr]	Set the computer input signal to RGB/YPbPr.
[Y/C]	Set the computer input signal to Y/C.

### [PROJECTOR ID]

The projector has an ID number setting function that can be used when multiple projectors are used side by side to enable simultaneous control or individual control via a single remote control.

- 1) Press ▲▼ to select [PROJECTOR ID].
- 2) Press the ◀ENTER▶ button.
  - The [PROJECTOR ID] screen is displayed.
- 3) Press ▲▼ to switch the item.
  - The items will switch each time you press the button.

[ALL]	Select this item to control projectors without specifying an ID number.
[1] ~ [6]	Select this item when specifying an ID number to control individual projector.

- 4) Press the ◀ENTER▶ button.

**Note**

- To specify an ID number for individual control, the ID number of a remote control must match the ID number of the projector.
- When the ID number is set to [ALL], the projector will operate regardless of the ID number specified during remote control or computer control.  
If multiple projectors are set up side by side with ID set to [ALL], they cannot be controlled separately from the projectors with other ID numbers.
- Refer to “Setting the ID number of the remote control” (➔ page 46) for how to set the ID number on the remote control.

**[INITIAL START UP]**

Set the method of start up when the power cord plugged into the AC outlet.

- 1) Press ▲▼ to select [INITIAL START UP].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[LAST MEMORY]	Starts in the condition that before disconnected the power cord or turn off the breaker.
[STANDBY]	Starts up in the standby mode.
[ON]	Starts the projection immediately.

**[PROJECTION METHOD]**

Set the projection method in accordance with the installation status of the projector.  
Change the projection method if the screen display is upside down or inverted.

- 1) Press ▲▼ to select [PROJECTION METHOD].
- 2) Press ◀▶ to switch the projection method.
  - The items will switch each time you press the button.

[AUTO]	The projector's posture can be detected automatically by the built-in angle sensor, then switch to [FRONT/DESK] or [FRONT/CEILING]. When projecting in front of the screen, please set to [AUTO].
[FRONT/DESK]	When installing the projector on the desk, etc., in front of the screen.
[FRONT/CEILING]	When installing the projector in front of the screen with the Ceiling Mount Bracket (optional).
[REAR/DESK]	When installing the projector on the desk, etc., behind the screen (with a translucent screen).
[REAR/CEILING]	When installing the projector behind the screen (with a translucent screen) with the Ceiling Mount Bracket (optional).

**Note**

- When set to [AUTO], front projection or rear projection cannot be detected. When projecting from rear, please set the [PROJECTION METHOD] to [REAR/DESK] or [REAR/CEILING].
- As for the range of installation posture detected by the projector's built-in angle sensor, please refer to “Angle sensor”. (➔ page 26)

**[LAMP POWER]**

Switch the brightness of the lamp according to the operating environment of the projector or the purpose.

- 1) Press ▲▼ to select [LAMP POWER].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[NORMAL]	Select when high luminance is required.
[ECO]	Select when high luminance is not required.

**Note**

- Set it to [ECO] rather than [NORMAL] when you want to reduce power consumption, extend the life of lamp and reduce operation noise.
- The [LAMP POWER] changes to [ECO] forcibly to protect the projector when the operating environment temperature becomes 35 °C (95 °F) or higher (30 °C (86 °F) or higher when used at high altitude). And, even if the [PROJECTOR SETUP] menu → [LAMP POWER] is set to [NORMAL], the [LAMP POWER] changes to [ECO] automatically.

**[LAMP RUNTIME]**

Displays the runtime of the lamps

Be sure to reset the [LAMP RUNTIME] after replacing the lamp unit, refer to “Lamp unit replacement time” (➔ page 104)

## [ECO MANAGEMENT]

This function optimizes lamp power according to the operating status to reduce power consumption.

### Setting [AUTO POWER SAVE]

Set whether or not to enable the [AMBIENT LIGHT DETECTION], [SIGNAL DETECTION] and [AV MUTE DETECTION] functions.

- 1) Press ▲▼ to select [ECO MANAGEMENT].
- 2) Press the «ENTER» button.
  - The [ECO MANAGEMENT] screen is displayed.
- 3) Press ▲▼ to select [AUTO POWER SAVE].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[OFF]	Disables the energy conservation setting.
[ON]	Enables the energy conservation setting.

- 5) Press ▲▼ to select [AMBIENT LIGHT DETECTION], [SIGNAL DETECTION] or [AV MUTE DETECTION].

[AMBIENT LIGHT DETECTION]	Adjusts the power of the lamp according to the brightness of the installation location.
[SIGNAL DETECTION]	Lowers the power of the lamp when there is no signal.
[AV MUTE DETECTION]	Lowers the power of the lamp when the [AV MUTE] is [ON].

- 6) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[OFF]	Disables the setting.
[ON]	Enables the setting.

### Note

- Lamp power cannot be reduced automatically in the following cases:
  - When the lamp lighting is just completed or the setting of [LAMP POWER] is just completed, etc..
- When [AUTO POWER SAVE] is set to [OFF], settings of [AMBIENT LIGHT DETECTION], [SIGNAL DETECTION] and [AV MUTE DETECTION] are unavailable.
- When [LAMP POWER] is set to [ECO], settings of [AMBIENT LIGHT DETECTION], [SIGNAL DETECTION] and [AV MUTE DETECTION] are unavailable.
- When objects, etc. are placed around the luminance sensor on the top of the projector, [AMBIENT LIGHT DETECTION] may not function properly.

### Setting [POWER MANAGEMENT]

Set the operation as following if there is no signal input.

- 1) Press ▲▼ to select [ECO MANAGEMENT].
- 2) Press the «ENTER» button.
  - The [ECO MANAGEMENT] screen is displayed.
- 3) Press ▲▼ to select [POWER MANAGEMENT].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[OFF]	Power management function is off.
[READY]	The countdown timer is displayed after 30 seconds without input signal. The projection lamp turns off and cools down when reaching the set time, meanwhile the projector is in the power management mode. The projection lamp will be turned on if the input signal is reconnected or any button is pressed.
[SHUT DOWN]	The countdown timer is displayed after 30 seconds without input signal. The projection lamp is turned off and cooled down when reached the set time, then the projector enter into standby status.



## Setting [TIMER]

The timer can be set to 5-120 minutes. The increment is 5 minutes.

- 1) Press ▲▼ to select [TIMER].
- 2) Press ◀▶ to set the timer.
  - The time will switch each time you press the button.

## Setting [STANDBY MODE]

Set the power consumption during standby.

- 1) Press ▲▼ to select [ECO MANAGEMENT].
- 2) Press the ◀ENTER▶ button.
  - The [ECO MANAGEMENT] screen is displayed.
- 3) Press ▲▼ to select [STANDBY MODE].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[ECO]	Select this item to reduce power consumption during standby.
[NORMAL]	Select this item to use the network function or the serial communication function during standby.

## Note

- If [STANDBY MODE] is set to [ECO], you cannot use network functions when the projector is standing by. Also, you cannot use some RS-232C protocol commands.
- When set to [ECO], it may take approx.10 seconds longer before the projector starts projecting after the power is turned on, compared with when [NORMAL] is set.
- When set to [NORMAL], it may take approx.1 minute to enable the network function after connecting the power cord.
- The setting of [STANDBY MODE] cannot be returned to the factory default even if the [PROJECTOR SETUP] menu → [INITIALIZE ALL] is executed. (▶▶ page 76)

## [EMULATE]

When controlling the projector on a computer via the <SERIAL IN> terminal, set use of control commands on a previously purchased Panasonic projector. This allows the control software for an existing Panasonic projector to be inherited and used.

- 1) Press ▲▼ to select [EMULATE].
- 2) Press the ◀ENTER▶ button.
  - The [EMULATE] screen is displayed.
- 3) Press ▲▼ to select one item.

[DEFAULT]	DEFAULT
[D3500]	D3500
[D4000]	D4000
[D/W5k SERIES]	D/W5k SERIES
[D/W/Z6k SERIES]	D/W/Z6k SERIES
[L730 SERIES]	L730 SERIES
[L780 SERIES]	L780 SERIES
[L735 SERIES]	L735 SERIES
[L785 SERIES]	L785 SERIES
[F/W SERIES]	F/W SERIES
[LZ370]	LZ370
[LB/W SERIES]	LB/W SERIES
[VX500 SERIES]	VX500 SERIES
[EZ570 SERIES]	EZ570 SERIES
[VW431D]	VW431D

- 4) Press the ◀ENTER▶ button.

## [FUNCTION BUTTON]

The function assigned to the <FUNCTION> button of the remote control is displayed. You can also release the assigned setting.

### Releasing assigned function to the <<FUNCTION>> button

- 1) Press ▲▼ to select [FUNCTION BUTTON].
- 2) Press the <<ENTER>> button.
  - The [FUNCTION BUTTON] screen is displayed.
- 3) Press the <<ENTER>> button.
- 4) When the confirmation screen is displayed, press ◀▶ to select [OK] and press the <<ENTER>> button.

#### Note

- You can also cancel the assigned settings by displaying the on-screen menu, selecting the menu item to be canceled (main menu, submenu, or details menu), and then pressing the <FUNCTION> button for at least 3 seconds.

## [AUDIO SETTING]

You can perform more detailed setting for Audio.

### Adjusting the volume

- 1) Press ▲▼ to select [AUDIO SETTING].
- 2) Press the <<ENTER>> button.
  - The [AUDIO SETTING] screen is displayed.
- 3) Press ▲▼ to select [VOLUME].
- 4) Press ◀▶ to adjust the level.

Operation	Adjustment	Range
Press the ▶ button.	Increases the volume.	0 ~ 63
Press the ◀ button.	Decreases the volume.	

### Setting the mute

- 1) Press ▲▼ to select [AUDIO SETTING].
- 2) Press the <<ENTER>> button.
  - The [AUDIO SETTING] screen is displayed.
- 3) Press ▲▼ to select [MUTE].
- 4) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[OFF]	Audio is output.
[ON]	Audio is not output.

### Setting the audio output during standby

- 1) Press ▲▼ to select [AUDIO SETTING].
- 2) Press the <<ENTER>> button.
  - The [AUDIO SETTING] screen is displayed.
- 3) Press ▲▼ to select [IN STANDBY MODE].

4) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[OFF]	Disables audio output in the standby mode.
[ON]	Enables audio output in the standby mode when [STANDBY MODE] is set to [NORMAL]. At this time, press the <VOL-> button/<VOL+> button on the remote control or the control panel to adjust the volume.

**Note**

- When [ECO MANAGEMENT] → [STANDBY MODE] is set to [ECO] (➔ page 73), even if [IN STANDBY MODE] is set to [ON], audio cannot be output during standby.
- When [IN STANDBY MODE] is set to [ON], the audio output is interrupted during the cooling period after the power is turned off, but this is not a malfunction.

**Setting audio input selection**

Choose the audio input terminal for each input signal.

1) Press ▲▼ to select [AUDIO SETTING].

2) Press the ◀ENTER▶ button.

- The [AUDIO SETTING] screen is displayed.

3) Press ▲▼ to select one item of [AUDIO IN SELECT].

[HDMI]	Set the audio output when [HDMI] input is selected.
[NETWORK]	Set the audio output when [NETWORK] input is selected.

4) Press ◀▶ to switch the item.

- The sub items will switch each time you press the button.

[HDMI]	Select one item among [HDMI AUDIO IN] or [AUDIO IN].
[NETWORK]	Select one item among [NETWORK AUDIO IN] or [AUDIO IN].

**[TEST PATTERN]**

Displays the test pattern built-in to the projector.

Settings of position, size, and other factors will not be reflected in test patterns. Make sure to display the input signal before performing various adjustments.

1) Press ▲▼ to select [TEST PATTERN].

2) Press the ◀ENTER▶ button.

- The test pattern with the [PATTERN CHANGE] individual adjustment screen is displayed.

3) Press ◀▶ to switch the test pattern.

- The test pattern will switch each time you press the button.
- When you press the <MENU> button or the <RETURN> button, it will exit the test pattern and return to the sub menu of [PROJECTOR SETUP].

All white	Select a test pattern so that it is easy to make various adjustments.
Color bars (vertical)	
Color bars (horizontal)	
White cross on the black background	
Black cross on the white background	
Cross hatch	

**Note**

- The initial setting is All white. The initial screen is Cross hatch if you have assigned it to the <FUNCTION> button.

## [FILTER COUNTER]

You can check the filter usage time and set the cleaning cycle for the air filter. Also, reset the filter usage time.

- 1) Press ▲▼ to select [FILTER COUNTER].
- 2) Press the «ENTER» button.
  - The [FILTER COUNTER] screen is displayed.

[FILTER COUNTER]	Displays the using time of the filter.
[TIMER]	Sets the cleaning cycle (time) for the air filter.
[FILTER COUNTER RESET]	Resets the filter usage time.

### Setting [TIMER]

Sets the cleaning cycle (time) if you want to clean the air filter periodically. When the time reaches, an alert message "FILTER COUNTER has reached the set time." for filter cleaning is displayed on the projected screen.

- 1) Press ▲▼ to select [FILTER COUNTER].
- 2) Press the «ENTER» button.
  - The [FILTER COUNTER] screen is displayed.
- 3) Press ▲▼ to select [TIMER].
- 4) Press ◀▶ to switch the setting of the timer.
  - The items will switch each time you press the button.

[OFF]	Sets when you do not want to display the set time reaching alert message.
[1 000 H] ~ [5 000 H]	Sets the timer in 1 000 hour increments from 1 000 to 5 000 hours.

### Resetting [FILTER COUNTER]

- 1) Press ▲▼ to select [FILTER COUNTER].
- 2) Press the «ENTER» button.
  - The [FILTER COUNTER] screen is displayed.
- 3) Press ▲▼ to select [FILTER COUNTER RESET].
- 4) Press the «ENTER» button.
  - The [FILTER COUNTER RESET] screen is displayed.
- 5) Press ◀▶ to select [OK] and then press the «ENTER» button.

## [INITIALIZE ALL]

Return various setting values to their factory default settings.

- 1) Press ▲▼ to select [INITIALIZE ALL].
- 2) Press the «ENTER» button.
  - The [INITIALIZE ALL] screen is displayed.
- 3) When the confirmation screen is displayed, press ◀▶ to select [OK] and then press the «ENTER» button.
  - The [NOW INITIALIZING...] screen is displayed and then the [POWER OFF] screen will be displayed.
- 4) Press the «ENTER» button.
  - The operation of other buttons is disabled.
  - The initial setting (display language) screen will be displayed when the projector is switched on the next time.

### Note

- The projector will enter the standby status to reflect the setting values when [INITIALIZE ALL] is executed.
- When [INITIALIZE ALL] is executed, [STANDBY MODE], [EMULATE], [FILTER COUNTER] and the setting values of [NETWORK] cannot be returned to the factory default values.  
For details about the initialization of [NETWORK], please refer to [NETWORK] → [INITIALIZE]. (▶ page 82)

## [SECURITY] menu

On the menu screen, select [SECURITY] from the main menu, and select an item from the sub-menu.

Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.

- When the projector is used for the first time

Initial password: Press ▲▶▼◀◀▶▶▼◀ in order, and press the <ENTER> button.

### Attention

- When you select the [SECURITY] menu and press the <ENTER> button, entering a password is required. Enter the preset password and then continue operations of the [SECURITY] menu.
- When the password has been changed previously, enter the changed password, and press the <ENTER> button.

### Note

- The entered password is displayed with \* marks on the screen.
- An error message is displayed on the screen when the entered password is incorrect. Re-enter the correct password.

## [PASSWORD]

The [PASSWORD] screen is displayed when press the power <⏻/|> button and turning on the power. When the entered password is incorrect, the operation will be restricted to the power <⏻/|> button on the control panel and on the remote control.

1) Press ▲▼ to select [PASSWORD].

2) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[OFF]	Disables the security password entry.
[ON]	Enables the security password entry.

### Note

- The [PASSWORD] setting is set to [OFF] by the factory default or when [INITIALIZE ALL] in [PROJECTOR SETUP] menu (➔ page 76) is executed.
- Change the password periodically that is hard to guess.
- The security password is enabled after setting [PASSWORD] to [ON] and press the power <⏻/|> button.

## [PASSWORD CHANGE]

Change the security password.

1) Press ▲▼ to select [PASSWORD CHANGE].

2) Press the <ENTER> button.

- The [PASSWORD CHANGE] screen is displayed.

3) Press ▲▼◀▶ and the number (<0> - <9>) buttons to set the password.

- Up to eight button operations can be set.

4) Press the <ENTER> button.

5) Re-enter the password for the confirmation.

6) Press the <ENTER> button.

### Note

- The entered password is displayed with \* marks on the screen.
- An error message is displayed on the screen when the entered password is incorrect. Re-enter the correct password.
- If numbers have been used for the security password, the security password will need to be initialized again if the remote control is lost. Consult your dealer for the initialization method.

**[TEXT DISPLAY]**

Overlap the security message (text or image) over the projecting image.

- 1) Press ▲▼ to select [TEXT DISPLAY].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[OFF]	Hides the security message.
[ON]	Displays the text set in the [SECURITY] menu → [TEXT CHANGE].

**[TEXT CHANGE]**

Edit the text to be displayed when [ON] is selected in [TEXT DISPLAY].

- 1) Press ▲▼ to select [TEXT CHANGE].
- 2) Press the ◀ENTER▶ button.
  - The [TEXT CHANGE] screen is displayed.
- 3) Press ▲▼◀▶ to select the text, and press the ◀ENTER▶ button to enter the text.
- 4) Press ▲▼◀▶ to select [OK], and press the ◀ENTER▶ button.
  - The text is changed.

**[MENU LOCK]**

Display the menu by the <MENU> button and set whether or not to enable menu operations.

- 1) Press ▲▼ to select [MENU LOCK].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[OFF]	Unlocks menu operations.
[ON]	Locks menu operations.

**Note**

- When the entered password is incorrect after setting [MENU LOCK] to [ON], the <MENU> button cannot be operated.
- [MENU LOCK] is set to [OFF] at the time of purchase or when [INITIALIZE ALL] is executed.
- When [MENU LOCK] is set to [ON], after entering the password to release the lock, the unlock state is held until the projector enters the standby mode.

**[MENU LOCK PASSWORD]**

The menu lock password can be changed.

- 1) Press ▲▼ to select [MENU LOCK PASSWORD].
- 2) Press the ◀ENTER▶ button.
  - The [MENU LOCK PASSWORD] screen is displayed.
- 3) Press ▲▼◀▶ to select the text, and press the ◀ENTER▶ button to enter the text.
  - Up to 16 characters can be input.
- 4) Press ▲▼◀▶ to select [OK], and press the ◀ENTER▶ button.
  - To cancel, select [CANCEL].

**Attention**

- The initial password is "AAAA" at the time of purchase or when [INITIALIZE ALL] is executed.
- Change the password periodically that is hard to guess.

**[CONTROL DEVICE SETUP]**

Enable/disable the button operations on the control panel and the remote control.

- 1) Press ▲▼ to select [CONTROL DEVICE SETUP].
- 2) Press the «ENTER» button.
  - The [CONTROL DEVICE SETUP] screen is displayed.
- 3) Press ▲▼ to select [CONTROL PANEL] or [REMOTE CONTROLLER].

[CONTROL PANEL]	You can set the limitation on the control from the control panel.
[REMOTE CONTROLLER]	You can set the limitation on the control from the remote control.

- 4) Press ◀▶ to switch between [ENABLE] and [DISABLE].
  - You can set the limitation on the control by the control panel or the remote control.

[ENABLE]	Enable the button operations.
[DISABLE]	Disable the button operations.

- A confirmation screen will be displayed when you change [ENABLE] to [DISABLE], then proceed to Step 5).

- 5) Press ◀▶ to select [OK], and then press the «ENTER» button.

**Note**

- When a button operation is performed on the device set to [DISABLE] , the [PASSWORD] screen is displayed. To continue operations, enter the security password.
- The [PASSWORD] screen will disappear when there is no operation for approx.10 seconds.
- If the operations of both [CONTROL PANEL] and [REMOTE CONTROL] are set to [DISABLE], the projector cannot be turned off (cannot enter standby).
- Even when you set button operations on the remote control to be disabled, operations of the <ID ALL> and <ID SET> buttons on the remote control are enabled.

## [NETWORK/USB] menu

On the menu screen, select [NETWORK/USB] from the main menu, and select an item from the sub-menu. Refer to “Navigating through the menu” (➔ page 48) for the operation of the menu screen.

### Note

- The on-screen menu (menu screen) of the projector has not the network setting about the wireless LAN. When the wireless module (Model No.: ET-WML100E) of the optional accessories is inserted to the projector, please set the wireless LAN by accessing the projector via a computer. For detailed, please refer to “Web control function” → “[Network config] page” (➔ page 96).

### [NAME CHANGE]

Change the name as desired in such a case as the projector needs to be identified on application software.

- 1) Press ▲▼ to select [NAME CHANGE].
- 2) Press the <ENTER> button.
  - The [NAME CHANGE] screen is displayed.
- 3) Select characters with the ▲▼◀▶ buttons and press the <ENTER> button to enter the projector name.
  - Up to eight characters can be input.
  - Select [ALL DELETE] to delete all the entered characters, or press the <DEFAULT> button on the remote control to delete a character on the cursor in the entry field.
- 4) Select [OK] with the ▲▼ buttons and press the <ENTER> button.
  - To cancel the change of the name, press ▲▼◀▶ to select [CANCEL] and press the <ENTER> button.

### Note

- [Name □□□□] (□□□□ is 4-digit number) is set before the projector leaves the factory.

### [MEMORY VIEWER LIGHT]

### Note

- The menu except for [SET SLIDE] which settings have been changed is not yet effective before the [APPLY] is not executed.

### [SET SLIDE]

Start the slide show.

- 1) Press ▲▼ to select [SET SLIDE].
- 2) Press the <ENTER> button.
  - Slide show will start.

### [SLIDE TRANSITION EFFECT]

Set the slide transition effect when the slide show image is switching.

- 1) Press ▲▼ to select [SLIDE TRANSITION EFFECT].
- 2) Press ◀▶ to switch the item.
  - The items will switch each time you press the button.

[SLIDE RIGHT]	Switches the image from the left to the right.
[SLIDE DOWN]	Switches the image from the top to the bottom.

### [SORT ORDER]

Set the sort order of the slide show.

- 1) Press ▲▼ to select [SORT ORDER].



## 2) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[NAME ORDER]	Sort files or folders in name order.
[TIME ORDER]	Sort files or folders in stored time order.
[SIZE ORDER]	Sort files or folders in amount of data order.
[EXTEND ORDER]	Sort files or folders in extended order.

**[ROTATE]**

Set the rotate direction of image.

## 1) Press ▲▼ to select [ROTATE].

## 2) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[NO ROTATE]	Rotate is disabled.
[90 DEGREE]	Rotates 90 degrees in clockwise direction.
[180 DEGREE]	Rotates 180 degrees.
[270 DEGREE]	Rotates 270 degrees in clockwise direction.

**[BEST FIT]**

Set the image whether or not to fit with the projected screen.

## 1) Press ▲▼ to select [BEST FIT].

## 2) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[OFF]	Displays in the normal pixels of the image.
[ON]	Displays the image to fit with the aspect of the projected screen.

**[REPEAT]**

Set whether or not to play the slide show repeatedly.

## 1) Press ▲▼ to select [REPEAT].

## 2) Press ◀▶ to switch the item.

- The items will switch each time you press the button.

[OFF]	Return to the thumbnail display after the last file is broadcasted.
[ON]	Repeat broadcast the first file after the last file is broadcasted.

**[APPLY]**

Executes the setting in slide show.

## 1) Press ▲▼ to select [APPLY].

## 2) Press the ◀ENTER&gt; button.

- The setting of the items except for [SET SLIDE] will be effective.

**[STATUS]**

Display the status of the projector network.

- 1) Press ▲▼ to select [STATUS].
- 2) Press the «ENTER» button.
  - The [STATUS] screen is displayed.

[WIRELESS LAN]	[SSID] <sup>*1</sup>	Displays the character string of SSID.
	[IP ADDRESS] <sup>*1</sup>	Displays the IP address.
[Presenter Light]	[LOGIN PASSWORD]	Displays the login password for Presenter Light/VueMagic Pro used.

\*1 The [SSID]/[IP ADDRESS] of [WIRELESS LAN] will be displayed when the wireless module (Model No.: ET-WML100E) of the optional accessories is inserted.

**Note**

- The on-screen menu (menu screen) of the projector has not the network setting about the wireless LAN. When the wireless module (Model No.: ET-WML100E) of the optional accessories is inserted to the projector, please set the wireless LAN by accessing the projector via a computer. For details, please refer to “Web control function” → “[Network config] page” (➔ page 96).

**[INITIALIZE]**

This function is used to return various setting values of [NETWORK] to the factory default value.

- 1) Press ▲▼ to select [INITIALIZE].
- 2) Press the «ENTER» button.
  - The [INITIALIZE] screen is displayed.
- 3) Press ◀▶ to select [OK] and then press the «ENTER» button.

# Chapter 5    Operation of Function

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This chapter describes the operation methods of some functions.

# About Memory Viewer function

The Memory Viewer function makes it is possible to project the still image stored in the USB memory.

## What you can project with the Memory Viewer function

Memory Viewer function supports the following image files.

	Extension	Format	Description
Picture	jpg / jpeg	Baseline coding 24 bits Progressive RGB 24 bits	Resolution : 8 x 8 ~ 10 000 x 10 000 Resolution : 8 x 8 ~ 1 280 x 800
	bmp	Palette-based 1, 4, 8 bits, RGB 24, 32 bits	The maximum resolution : 1 280 x 800
	png	True color 24 bits/48 bits	The maximum resolution : 1 280 x 800
	gif	Palette-based 1, 4, 8 bits	Palette - 24 bits color spaces; The maximum resolution : 1 280 x 800
	tif / tiff		The maximum resolution : 1 280 x 800

### Note

- The maximum size of file is 2 GB.
- The total number of folders/files that can be displayed is about 500 at the maximum. In addition, other than the supported format as the above table cannot be displayed.
- You cannot play the files which is protected by Digital Rights Management (DRM).
- It maybe impossible to resume playing even if the file is recorded in the supported format.

## Cautions on using USB Memory

Please observe the following.

- Do not put USB memory or its cap within close reach of children. Swallowing them may cause suffocation.
- If the smoke or questionable odor rise, remove the USB memory from the projector, and then contact your dealer.
- Do not put water, chemical or oil to the USB memory. It may cause short out or fire.
- Do not put foreign objects or put metal objects to the USB terminal. Static electricity may cause data loss or data corruption.
- Do not remove the USB memory from the computer or the projector while the USB memory is reading out or writing the data. It may cause data loss or data corruption.
- Do not store the USB memory where high temperature, humid or dusty place or magnetized items are around.

### Note

- It is compatible with the USB memory sold in the market.
- It cannot be used the other format other than the formatted with FAT16 and FAT32.

## Inserting the USB memory

- 1) Insert the USB memory directly into the <<VIEWER/WIRELESS>> terminal.

### Attention

- When inserting the USB memory, confirm the direction of the plug and do not damage the terminal.

## Removing the USB memory

- 1) Make sure that the USB memory is not flashing, and then unplug it.

### Attention

- Please note following points when removing the USB memory.
  - The indicator of the USB memory is blinking means that the projector is reading out the data. Do not remove the USB memory while it is blinking.
  - When using a USB memory without an indicator, you cannot recognize when the projector reading out the data. Please remove it from the projector after closing the memory viewer function or turning off the projector.
  - Do not insert and remove the USB memory in a short time. Remove the USB memory at least five seconds after inserting. And insert it at least five seconds after removing. When inserting or removing the USB memory, the projector takes about five seconds to identify the operation.

### Note

- The USB memory can be inserted or removed regardless of the power status of the projector.

## Displaying the Memory Viewer screen

- 1) Press the «MEMORY VIEWER» button on the remote control or switch the input source to [MEMORY VIEWER].
  - Press the <INPUT SELECT> button on the control panel and select the input source in the Input menu.
- 2) Insert the USB memory directly into the «VIEWER/WIRELESS» terminal.
  - The standby screen “please press ENTER” is displayed while the USB memory icon is displayed at the lower left of the screen.
  - When the partition are separated in USB memory, several USB icons will be displayed.
- 3) Press the «ENTER» button on the remote control.
  - The root directory of the USB memory will be displayed in thumbnail on the screen.

## Playing the pictures

It will display a picture when play the picture manually every time.

- 1) Press ▲▼◀▶ on the remote control to select a file.
- 2) Press the «ENTER» button on the remote control.
  - The picture will display on the full screen.
- 3) Press ▶ to switch to the next picture, press ◀ to return to the previous picture.
- 4) Press the «ENTER» button on the remote control.
  - Return to the thumbnail screen.

## Executing the slide

All pictures in the same folder will play automatically when [SORT ORDER] and [SLIDE TRANSITION EFFECT] and so on of [MEMORY VIEWER LIGHT] menu are set to the special setting.

- 1) Press ▲▼◀▶ on the remote control to select a file.
- 2) Press the <MENU> button to select the [MEMORY VIEWER LIGHT] → [SET SLIDE].
- 3) Press the «ENTER» button on the remote control.
  - The picture will display on the full screen.
  - Press the <ENTER> button to return to the thumbnail screen.

### Note

- If you press the <MENU> button during the slide show, the image will stop and the a menu displays. The playing will continue when the menu disappears.

## Termination of the Memory Viewer

- 1) Press ▲▼◀▶ to select the thumbnail  which is displayed on the upper left corner.
- 2) Press the «ENTER» button on the remote control.
  - Return to the standby screen “please press ENTER”.

# Network connections

This projector has network function that allows the following by connecting a computer. The wireless module (Model No.: ET-WML100E) of the optional accessories is required if the wireless LAN is connected.

- **WEB control**

By accessing the projector from a computer, you can perform setting, adjustment, status display, etc. of the projector. Refer to “Web control function” (➔ page 91) for details.

- **Presenter Light**

By using still image transfer application software “Presenter Light” that supports Windows computers, you can transfer images and audio to the projector via the wired LAN/wireless LAN. For details, please refer to the operating instructions for “Presenter Light” included in the supplied CD-ROM.

- **VueMagic Pro**

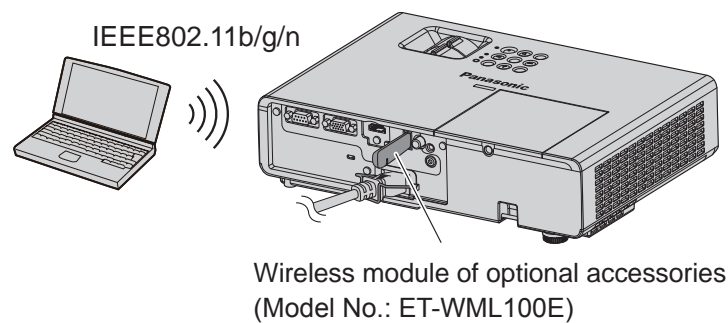
By using still image transfer application software “VueMagic Pro”, you can transfer images to the projector when iPad/iPhone/iPod touch or Android terminals are connected to this projector through the wireless LAN. Refer to “About VueMagic Pro” (➔ page 90) for details.

## When connecting via wireless LAN

The wireless module (Model No.: ET-WML100E) of the optional accessories is required if you want to use the network function through the wireless LAN.

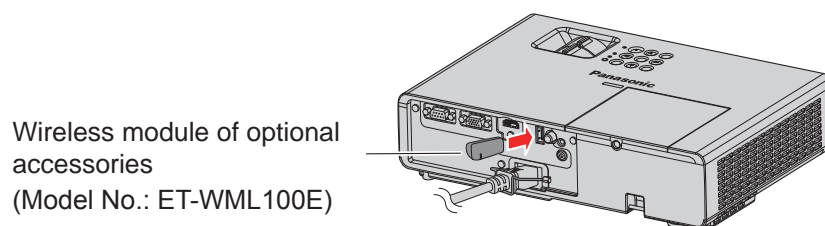
- Only one projector can be connected with the wireless LAN.

## Connection example



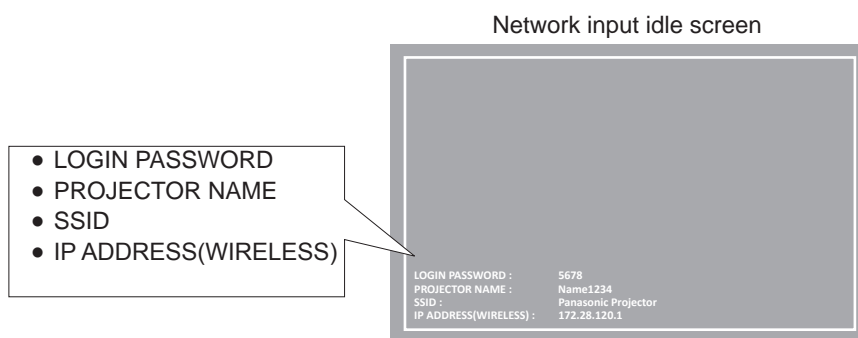
## Preparation and confirmation of the projector

- 1) Turn on the projector.
- 2) Insert the wireless module (Model No.: ET-WML100E) of optional accessories firmly into the <VIEWER/WIRELESS> terminal.



3) Press the «WIRELESS» button to switch to NETWORK input.

- The network input idle screen is displayed. The login password (a four-digit number that is automatically generated), PROJECTOR NAME, SSID and IP ADDRESS (WIRELESS) will be displayed in the idle screen.



**Attention**


- Please do not move or transport the projector while the wireless module is attached. Doing so may cause the wireless module to be damaged.
- The indicator of the wireless module will be off when the projector is in standby mode, it will light in blue when the power is turned on and it will blink in blue during wireless communicating.  
Please do not remove the wireless module while the indicator is blinking.
- When the power of the projector is turned on and the indicator of the wireless module is not lighting/blinking, please insert the wireless module to the <VIEWER/WIRELESS> terminal again.
- The [IP ADDRESS (WIRELESS)] is displayed after the power is turned on, please connect network to the projector.

**Note**

- The settings of the wireless module are as follows. You can access the projector from the web browser to set the values of [SSID], [CHANNEL] and [ENCRYPTION].

[SSID]	Network Statusxxxx (xxxx stands for a four-digit number and varies by each product.)
[CHANNEL]	1
[IP ADDRESS]	172.28.120.1
[SUBNET MASK]	255.255.255.0
[DEFAULT GATEWAY]	0.0.0.0
[ENCRYPTION]	WPA2-PSK(AES)
[KEY]	panasonic

**Computer setting**

- 1) Turn on the computer.
- 2) Make the network setting according to your system administrator.
  - Please make the network settings for the computer and the projector according to your system administrator.
- 3) Connect to the network that has been set in the projector.
  - If you use a computer, click on the task tray  (bottom right of the computer), then select the same name as the SSID that has been set in the projector.

**Note**

- If you use any wireless LAN connection utility that meets the OS standard, follow the operation instruction of the utility to connect it.

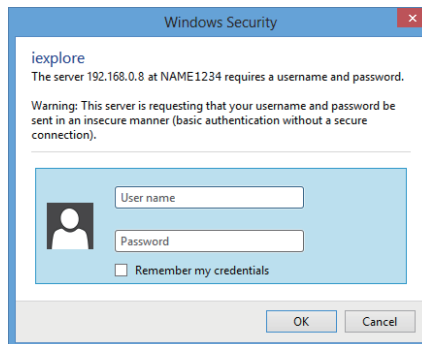
# About Presenter Light

The wireless module (Model No.: ET-WML100E) of the optional accessories is required if you want to use the network function through the wireless LAN.

By using still image transfer application software “Presenter Light” that supports Windows computers, you can transfer images and audio to the projector via the wired LAN/wireless LAN.

## Download the “Presenter Light” to your computer

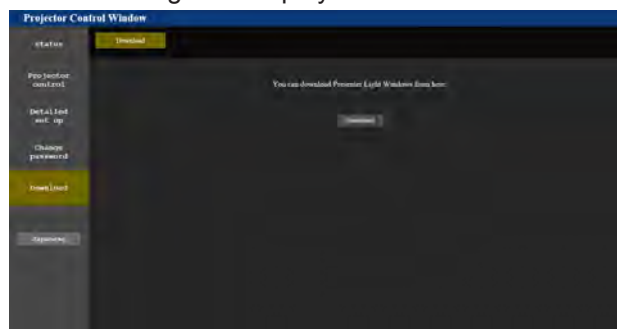
- 1) Start up the web browser on the computer.
- 2) Enter the IP address set on the projector into the URL entry field of the web browser.
- 3) Enter the user name and the password.
  - The factory default setting of the user name is user1 (user rights)/admin1 (administrator rights) and the password is panasonic (lower case).



- 4) Click [OK].
  - The [Projector status] page is displayed.



- 5) Click [Download].
  - The download screen of “Presenter Light” is displayed.



- 6) Click [Download].
  - The download confirmation screen of the executable file “Presenter Light.exe” is displayed.



7) Save “Presenter Light.exe” on the computer desktop.

- This software is used as the executable file format. It cannot be installed in the computer.
- Execute this file when using the software. Please save this software or make a shortcut for convenient use.

**Note**

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- For more details about how to use the software “Presenter Light”, please refer to the operating instructions of “Presenter Light Software” of the supplied CD-ROM.
- Download the latest versions of “Presenter Light” software from the following web site.  
URL <http://panasonic.net/avc/projector/>

# About VueMagic Pro

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The wireless module (Model No.: ET-WML100E) of the optional accessories is required.

By using still image transfer application software “VueMagic Pro”, you can transfer images to the projector when iPad/iPhone/iPod touch or Android terminals are connected to this projector through the wireless LAN.

## Connecting with the VueMagic Pro compatible device

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- 1) **Press the «WIRELESS» button to select [NETWORK].**
  - Switch to the NETWORK input and the NETWORK input idle screen is displayed.
  - Check the login password (a four-digit number that is automatically generated), SSID and the IP address (wireless LAN) which are displayed on the NETWORK input idle screen.
  - You can also press the <INPUT SELECT> button on the control panel to select [NETWORK] in the input guide.
- 2) **Choose the SSID of this projector on the wireless LAN setting screen of the connected device, and then connect the wireless.**
- 3) **Start the VueMagic Pro mobile presenter application of the correspondent VueMagic Pro devices.**
- 4) **Choose the projector name of this projector in the projector list.**
  - The connection confirmation screen is displayed.
- 5) **Choose the display position.**
  - The password entry screen is displayed.
- 6) **Enter the login password and click [OK].**
  - The connected device screen is projected on the screen.

### Note

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- When connecting to the iOS device or Android device, you must install the dedicated application “VueMagic Pro” to the device. For detailed information, refer to the following web site. (Only in English.)  
URL <http://vuemagic.pixelworks.com>

## Disconnecting with the VueMagic Pro compatible device

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Close the VueMagic Pro mobile presenter application of the device by clicking the .

## Web control function

The wireless module (Model No.: ET-WML100E) of the optional accessories is required if you want to use the network function through the wireless LAN.

The projector has a network function, and the following operations are available from the computer by using the web control.

- Setting and adjustment of the projector
- Display of the projector status
- Transmission settings of E-mail messages

### Note

- If you use the E-mail function, you need to communicate with the E-mail server. First, please make sure that you can use the E-mail.

### Computer that can be used

In order to use the Web control function, a Web browser is required. Confirm that the Web browser can be used beforehand.

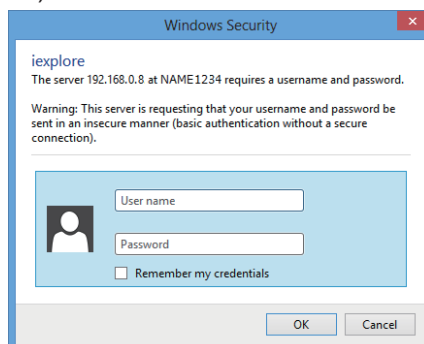
OS	Compatible web browser
Windows	Internet Explorer 11.0 Microsoft Edge
Mac OS	Safari 6.0/7.0/8.0/9.0

### Note

- Communication with an E-mail server is required to use the E-mail function. Confirm that the E-mail can be used beforehand.

### Accessing from the web browser

- 1) Start up the web browser on the computer.
- 2) Enter the IP address set on the projector into the URL entry field of the web browser.
- 3) Enter the user name and the password.
  - The factory default setting of the user name is user1 (user rights)/admin1 (administrator rights) and the password is panasonic (lower case).



4) Click [OK].

- The [Projector status] page is displayed.



**Note**

- Do not perform setting or control simultaneously by starting up multiple web browsers. Do not set or control the projector from multiple computers.
- Change the password first. (➔ page 98)
- Access will be locked for few minutes when an incorrect password is entered three times consecutively.
- Some items on the projector setting page use the Javascript function of the web browser. The projector may not be able to be controlled properly if it is set with a browser that does not have this function enabled.
- If the screen for the web control is not displayed, consult your network administrator.
- While updating the screen for the web control, the screen may become white for a moment, but it is not a malfunction.
- About computer screen illustrations

The subsequent web control screens show examples for PT-SX320A. Screen content may differ from that for the projector model you are using. In addition, the screen size and the display may be differ from this manual depending on the OS, WEB browser or the type of computer you are using.

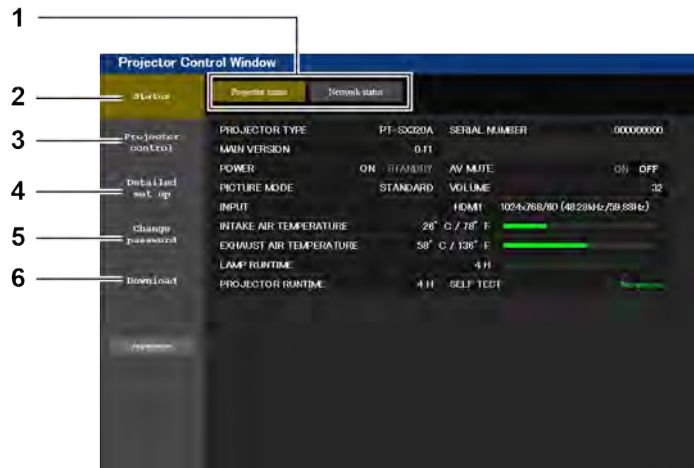
**Available functions per account**

With the administrator rights, all functions can be used. With the user rights, available functions are restricted. Select an account according to the purpose of use.

- ✓: The operation can be performed.
- : The operation cannot be performed.

Item	Function	Administrator rights	User rights	Page
[Status]	[Projector status]	✓	✓	93
	Error information page	✓	✓	94
	[Network status]	✓	✓	95
[Projector control]	[Basic control]	✓	✓	95
	[Detail control]	✓	✓	95
[Detailed set up]	[Network config]	✓	—	96
	[Ping test]	✓	—	97
	[ECO management set up]	✓	—	97
[Change password]	User name of [Administrator]	✓	—	98
	User name of [User]	✓	—	99
	Password of [Administrator]	✓	—	98
	Password of [User]	✓	✓	99
[Download]	Download Presenter Light	✓	✓	88

Descriptions of items

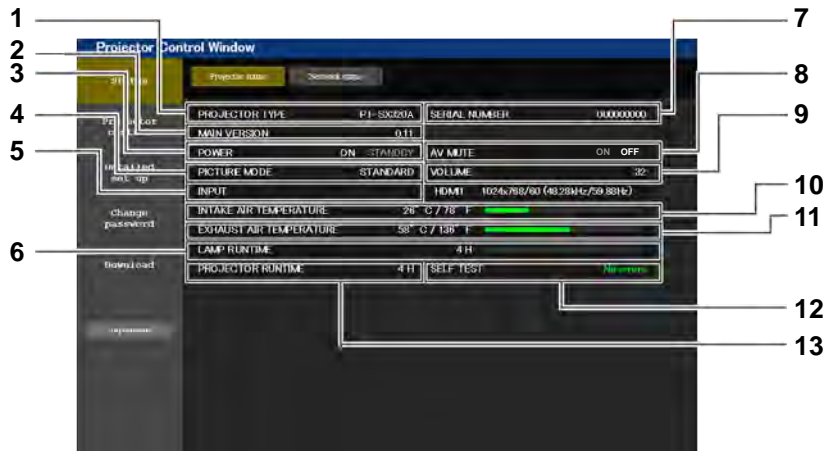


- 1 **Page tab**  
Pages are switched by clicking this item.
- 2 **[Status]**  
The status of the projector is displayed by clicking this item.
- 3 **[Projector control]**  
The [Projector control] page is displayed by clicking this item.
- 4 **[Detailed set up]**  
The [Detailed set up] page is displayed by clicking this item.
- 5 **[Change password]**  
The [Change password] page is displayed by clicking this item.
- 6 **[Download]**  
The download page of Presenter Light software is displayed by clicking this item. (➔ page 88)

[Projector status] page

Click [Status] → [Projector status].

Display the status of the projector for the following items.

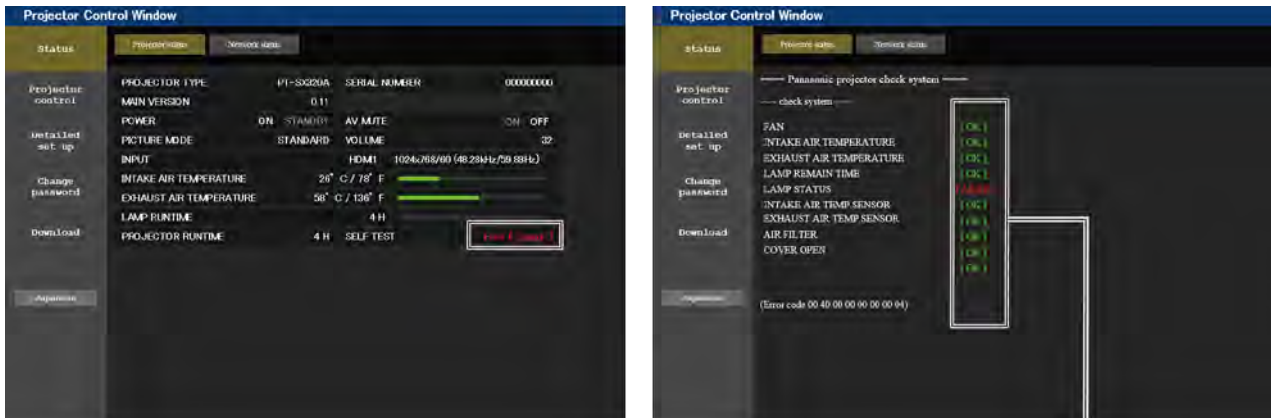


- 1 **[PROJECTOR TYPE]**  
Displays the type of the projector.
- 2 **[MAIN VERSION]**  
Displays the firmware version of the projector.
- 3 **[POWER]**  
Displays the status of the power.
- 4 **[PICTURE MODE]**  
Displays the setting status of [PICTURE MODE].
- 5 **[INPUT]**  
Displays the status of the selected input.
- 6 **[LAMP RUNTIME]**  
Displays the runtime of the lamps (converted value).
- 7 **[SERIAL NUMBER]**  
Displays the serial number of the projector.
- 8 **[AV MUTE]**  
Displays the status of the AV mute.
- 9 **[VOLUME]**  
Displays the volume status.
- 10 **[INTAKE AIR TEMPERATURE]**  
Displays the status of the air intake temperature of the projector.
- 11 **[EXHAUST AIR TEMPERATURE]**  
Displays the status of the exhaust air temperature of the projector.
- 12 **[SELF TEST]**  
Displays the self-diagnosis information.
- 13 **[PROJECTOR RUNTIME]**  
Displays the runtime of the projector.

Error information page

When [Error (Detail)] or [Warning (Detail)] is displayed in the self-diagnosis display of the [Projector status] screen, click it to display the error/warning details.

- The projector may go into the standby status to protect the projector depending on the contents of the error.



1

1 Self-diagnosis result display

Displays the item check results.

[OK]: Indicates that operation is normal.

[FAILED]: Indicates that there is a problem.

[WARNING]: Indicates that there is a warning.

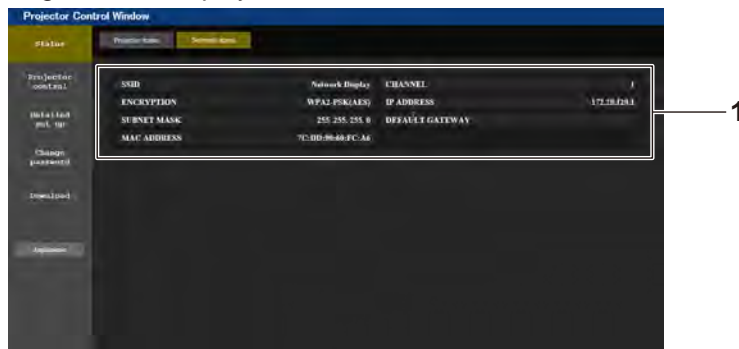
■ [FAILED] items displayed when a problem occurs

Item	Description
[FAN]	Trouble has occurred in the fan or its drive circuit. Consult your dealer.
[FAN(B)]	Trouble has occurred in the B panel cooling fan.
[FAN(R_G)]	Trouble has occurred in the R/G panel cooling fan.
[FAN(LAMP)]	Trouble has occurred in the lamp cooling fan.
[FAN(POWER)]	Trouble has occurred in the power cooling fan.
[FAN(EXHAUST)]	Trouble has occurred in the exhaust fan.
[INTAKE AIR TEMPERATURE]	The air intake temperature is too high. The projector may be used in an operating environment where the temperature is high, such as near a heating appliance.
[EXHAUST AIR TEMPERATURE]	The exhaust air temperature is high. The air exhaust port may be blocked.
[LAMP REMAIN TIME]	The lamp runtime has exceeded the prescribed cumulative time, and it is now time to replace the lamp.
[LAMP STATUS]	The lamp has failed to light. Wait a short while for the lamp to cool off, and then turn on the power.
[INTAKE AIR TEMP.SENSOR]	Trouble has occurred in the sensor used to detect intake air temperature. Consult your dealer.
[EXHAUST AIR TEMP.SENSOR]	Trouble has occurred in the sensor used to detect exhaust air temperature. Consult your dealer.
[AIR FILTER]	There is too much dust accumulated in the air filter. After the projector is switched off, and clean the air filter. (➡ page 102)
[COVER OPEN]	Cover open error.

**[Network status] page**

Click [Status] → [Network status].

The current network setting status is displayed.

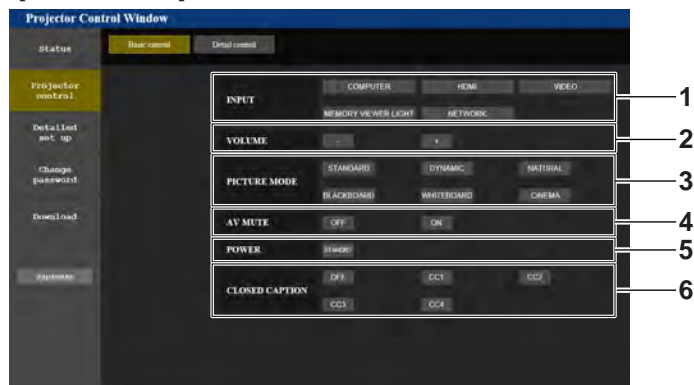


**1 [WIRELESS LAN]**

Displays the configuration details of wireless LAN when the wireless module is attached.

**[Basic control] page**

Click [Projector control] → [Basic control].



**1 [INPUT]**

Switches the input signal.

**2 [VOLUME]**

Adjusts the volume.

**3 [PICTURE MODE]**

Switches the picture mode.

**4 [AV MUTE]**

Switches on/off the AV mute.

**5 [POWER]**

Turns off the power.

**6 [CLOSED CAPTION]**

Switches the closed caption setting.

**[Detail control] page**

Click [Projector control] → [Detail control].



**1 [POSITION]**

Operates field angle-related settings.

**2 [PICTURE]**

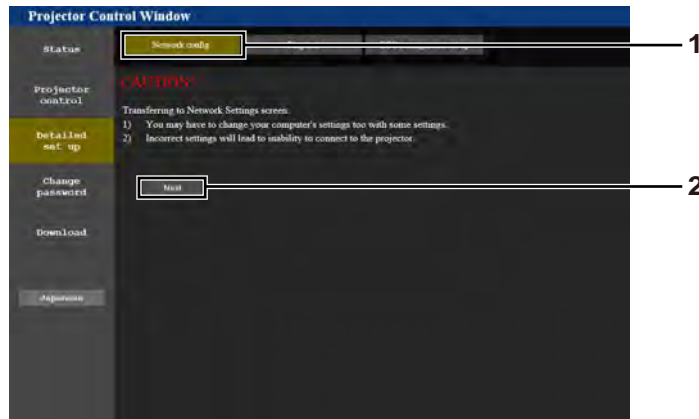
Operates picture quality settings.

**[Network config] page**

Click [Detailed set up] → [Network config].

1) Click [Network config].

- The [CAUTION!] screen is displayed.

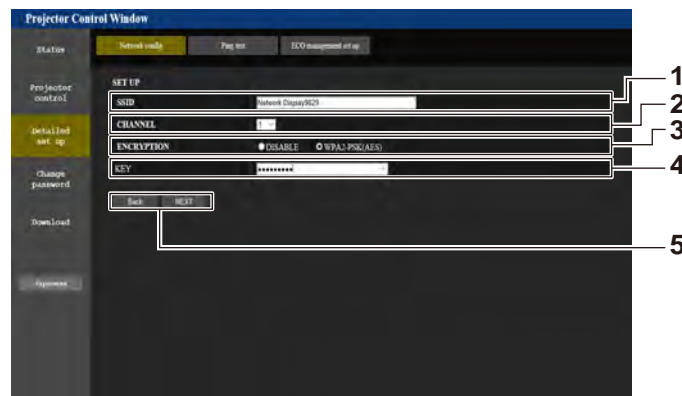


2) Select the item which you want to change the setting, then click [Next].

- The current setting is displayed.

3) Click [Change] button.

- When the wireless module is attached, the setting screen is displayed.



1 [SSID]

Sets the SSID for use.

2 [CHANNEL]

Selects the channel for use.

3 [ENCRYPTION]

Selects [WPA2-PSK(AES)] when performing encrypted communications.

4 [KEY]

Sets the key to be used when performing encrypted communications.  
8 to 15 alphanumeric characters can be input.

5 [Back], [NEXT]

Click the [Back] button to return to the original screen.

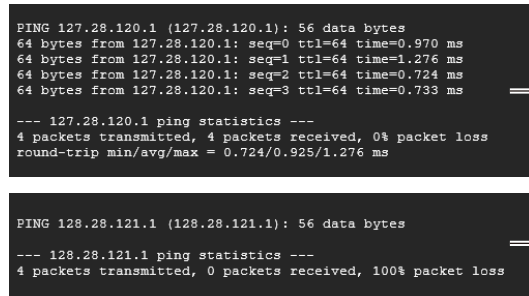
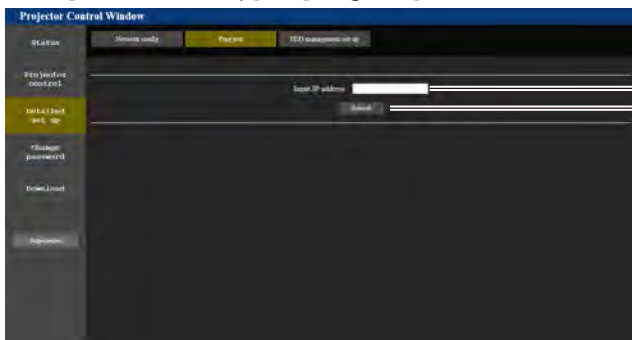
**Note**

- The setting values of the [Network config] page will return to the factory default when the [INITIALIZE] of the [NETWORK] menu is executed. (→ page 82)



[Ping test] page

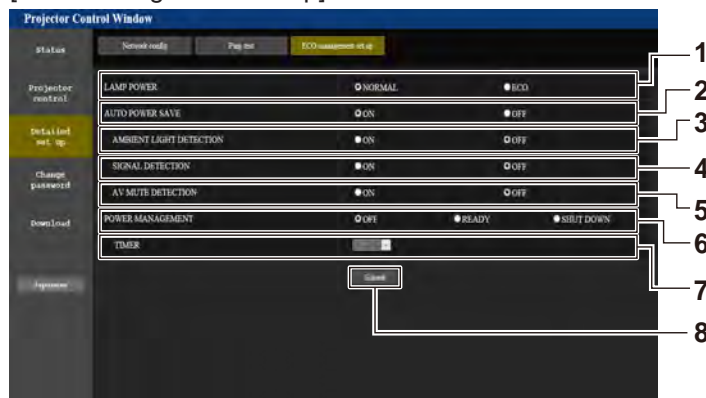
Check whether the network is connected to the E-mail server, POP server, DNS server, etc.  
Click [Detailed set up] → [Ping test].



- 1 **[Input IP address]**  
Enter the IP address of the server to be tested.
- 2 **[Submit]**  
Executes the connection test.
- 3 **Example of display when the connection has succeeded**
- 4 **Example of display when the connection has failed**

[ECO management set up] page

Settings related to the ECO management function of the projector can be made.  
Click [Detailed set up] → [ECO management set up].



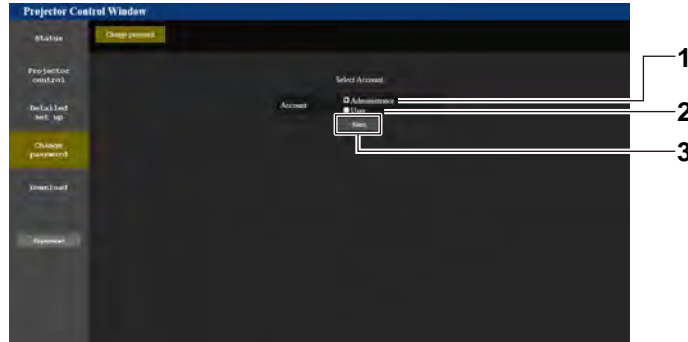
- 1 **[LAMP POWER]**  
Selects the [LAMP POWER] setting.
- 2 **[AUTO POWER SAVE]**  
Sets to [ON] when setting [AMBIENT LIGHT DETECTION], [SIGNAL DETECTION] and [AV MUTE DETECTION].
- 3 **[AMBIENT LIGHT DETECTION]**  
Selects enable ([ON])/disable ([OFF]) of the environmental luminance interlock function.
- 4 **[SIGNAL DETECTION]**  
Selects enable ([ON])/disable ([OFF]) of the no signal interlock function.
- 5 **[AV MUTE DETECTION]**  
Selects to enable ([ON])/disable ([OFF]) of the AV mute detection function.
- 6 **[POWER MANAGEMENT]**  
Selects the power consumption mode.
- 7 **[TIMER]**  
Selects the time that the lamp is turned off when the POWER MANAGEMENT function is using.
- 8 **[Submit]**  
Updates the settings.

Note

- For details of each setting item, refer to the [PROJECTOR SETUP] menu → [ECO MANAGEMENT] (▶ page 72) on the projector.

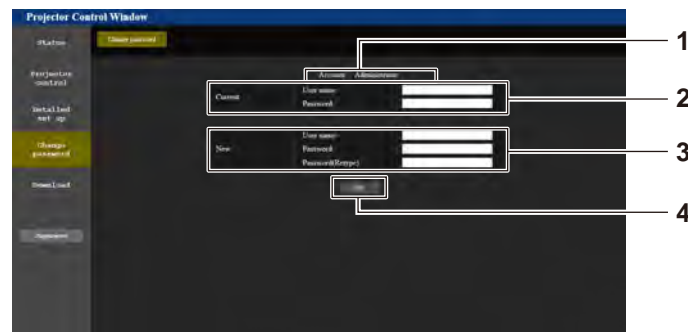
**[Change password] page**

Click [Change password].



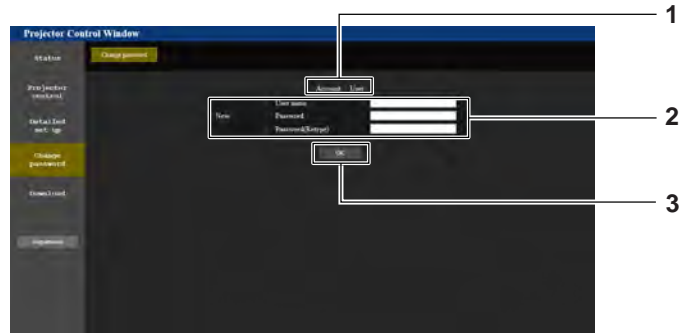
- 1 **[Administrator]**  
Used to change the setting of the [Administrator].
- 2 **[User]**  
Used to change the setting of the [User].
- 3 **[Next]**  
Used to display the screen for changing the password.

**[Administrator] account**



- 1 **[Account]**  
Displays the account to change.
- 2 **[Current]**  
**[User name]:**  
Enter the user name before the change.  
**[Password]:**  
Enter the current password.
- 3 **[New]**  
**[User name]:**  
Enter the desired new user name. (Up to 16 characters in single byte)  
**[Password]:**  
Enter the desired new password. (Up to 16 characters in single byte)  
**[Password(Retyp)]:**  
Enter the desired new password again.
- 4 **[OK]**  
Determines the change of password.

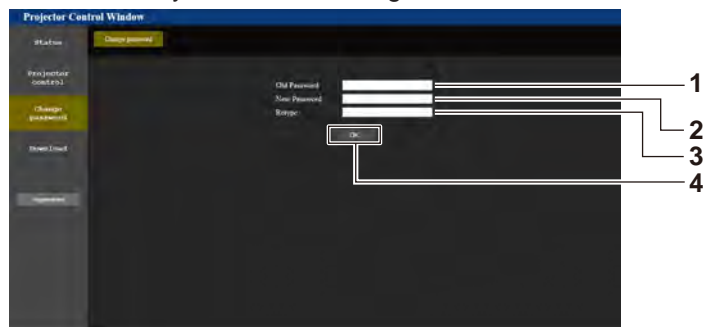
[User] account



- |   |   |
|---|---|
| <p>1 <b>[Account]</b><br/>Displays the account to change.</p> <p>2 <b>[New]</b><br/><b>[User name]:</b><br/>Enter the desired new user name. (Up to 16 characters in single byte)<br/><b>[Password]:</b><br/>Enter the desired new password. (Up to 16 characters in single byte)<br/><b>[Password(Retyp)]:</b><br/>Enter the desired new password again.</p> | <p>3 <b>[OK]</b><br/>Determines the change of password.</p> |
|---|---|

[Change password] (For user rights)

The change of password is enabled only under the user rights.



- |  |   |
|--|---|
| <p>1 <b>[Old Password]</b><br/>Enter the current password.</p> <p>2 <b>[New Password]</b><br/>Enter the desired new password. (Up to 16 characters in single byte)</p> | <p>3 <b>[Retyp]</b><br/>Enter the desired new password again.</p> <p>4 <b>[OK]</b><br/>Determines the change of password.</p> |
|--|---|

**Note**

- To change the account of the administrator, you must enter the [User name] and the [Password] in [Current].

# Chapter 6 Maintenance

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This chapter describes methods of inspection when there are problems, maintenance, and replacement of the units.

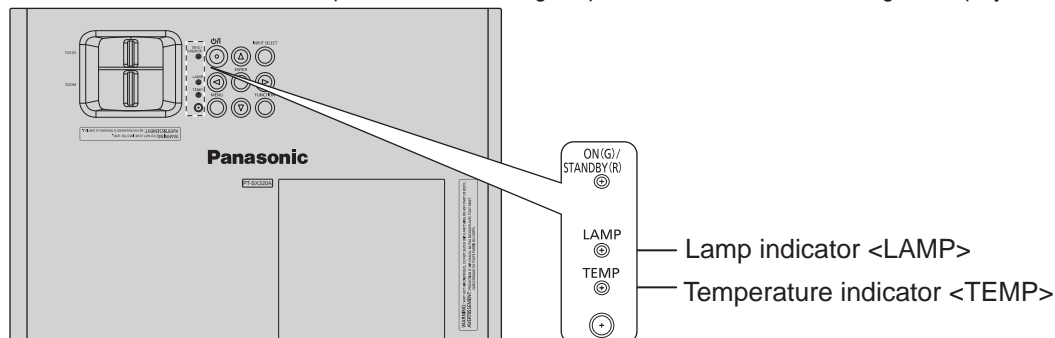
# Lamp and temperature indicators

## When an indicator lights up

If a problem should occur inside the projector, the lamp indicator <LAMP> and the temperature indicator <TEMP> will inform you by lighting or blinking. Check the status of the indicators and remedy the indicated problems as follows.

### Attention

- Before you take a remedial measure, follow the procedure of switching the power off indicated in “Switching off the projector” (➔ page 39).



## Lamp indicator <LAMP>

Indicator status	Lighting in red	Blinking in red
Status	Time to replace the lamp unit. (➔ page 104)	A problem is detected in the lamp or the power supply for the lamp.
Check	<ul style="list-style-type: none"> <li>Was [REPLACE LAMP] displayed when you turned on the power?</li> <li>The indicator lights up when the runtime of the lamp unit reaches 3 800 hours (when [LAMP POWER] is set to [NORMAL]).</li> </ul>	<ul style="list-style-type: none"> <li>Have you turned on the power again immediately after turning it off?</li> <li>Some error has occurred in the lamp circuit. Check for fluctuation (or drop) in the source voltage.</li> </ul>
Remedy	<ul style="list-style-type: none"> <li>Replace the lamp unit.</li> </ul>	<ul style="list-style-type: none"> <li>Wait a while until the luminous lamp cools off, and then turn on the power.</li> <li>Turn off the projector, and unplug the AC power cord, and consult your dealer.</li> </ul>

### Note

- If the lamp indicator <LAMP> is still lighting or blinking after taking the preceding measures, ask your dealer for repair.

## Temperature indicator <TEMP>

Indicator status	Lighting in red	Blinking in red	Blinking in red (Slow)
Status	The air filter unit is clogged, internal temperature is high (warning).	The air filter unit is clogged, internal temperature is high (standby status).	The projector detects an abnormal condition and cannot be turned on.
Check	<ul style="list-style-type: none"> <li>Is the air intake/exhaust port blocked?</li> <li>Is the room temperature high?</li> <li>Is the air filter unit dirty?</li> </ul>		—
Remedy	<ul style="list-style-type: none"> <li>Remove any objects that are blocking the air intake/ exhaust port.</li> <li>Install the projector in a location with an ambient temperature of 0 °C (32 °F) to 40 °C (104 °F)*1.</li> <li>Do not use the projector at high altitudes of 2 700 m (8 858') or higher above sea level.</li> <li>Clean the air filter unit or replace the filter of the air filter. (➔ page 102, 103)</li> </ul>		<ul style="list-style-type: none"> <li>If the projector is turned off again, unplug the AC power cord and contact the dealer or the service center for service and checkup.</li> </ul>

\*1 When using the projector at high altitudes (between 1 400 m (4 593') and 2 700 m (8 858') above sea level), the operating environment temperature should be between 0 °C (32 °F) and 35 °C (95 °F).

### Note

- If the temperature indicator <TEMP> is still lighting or blinking after taking the preceding measures, ask your dealer for repair.
- If the [LAMP POWER] is set to [NORMAL], [LAMP POWER] may be set to [ECO] forcibly to protect the projector when the operating environment temperature becomes 35 °C (95 °F) or higher.

# Care and Replacement

## Preparations

Before cleaning, be sure to turn off the power and disconnect the power plug from the wall outlet. (➔ page 35)

## CLEANING THE PROJECTOR

### Cabinet

Wipe off dirt and dust gently with a soft cloth.

- If it is difficult to remove the dirt, wipe the projector with a damp cloth. Dry off the projector with dry cloth.
- Do not use petroleum benzine, thinner, any alcoholic solvent, kitchen detergents or chemical cloths. Failure to observe these may result in altered or damaged surfaces of the projector.

### Projector lens

Make sure no dirt or dust remains on the surface of the projector lens glass. It will be enlarged and projected onto the screen.

Wipe off dirt and dust gently with a lint-free cloth. Do not wipe the projector lens with a cloth which has collected dust.

### Note

- Clean the projector lens with special care.

### Clean the air filter

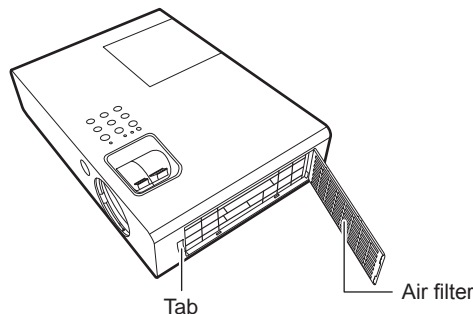
If the air filter is excessively dirty, the internal temperature of the projector increases, the **TEMP** indicator lights, and the power is turned off.

If the power is turned off, the **TEMP** indicator flashes.

Clean the air filter regularly every 100 hours of usage.

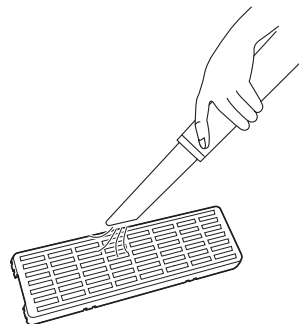
#### 1) Remove the air filter.

While pressing the tab of the air filter, pull the air filter open slowly.



#### 2) Clean the air filter.

Vacuum dirt and dust from the air filter.



#### 3) Install the air filter.

Install in the reverse order to 1).

### Note

- Do not use the projector without attaching the air filter. Otherwise, it will suck in dirt and dust which can cause malfunction.
- The **TEMP** indicator may flash because of clogging within 100 hours, depending on the using environment. In that case, clean the air filter at shorter intervals.

# Care and Replacement (continued)

## REPLACE THE LAMP UNIT

### Replace the filter

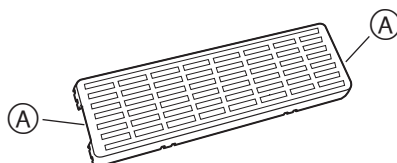
The air filter should be replaced when cleaning is ineffective and when replacing the lamp unit. A replacement filter is provided with a replacement lamp unit (ET-LAL600). Contact an Authorized Service Center for the filter (TXFKN01VKN5).

#### 1) Remove the air filter.

- Refer to step 1) of “Clean the air filter” (➔ page 102).

#### 2) Remove the filter of the air filter.

- Remove the fixed adhesive tapes (2) at (A) on the air filter, and remove the filter of the air filter.



#### 3) Install the filter of the air filter.

- Install the new filter (Model No.: TXFKN01VKN5) on the shell of the air filter, and fixed it with adhesive tapes on the both sides.

#### 4) Install the air filter.

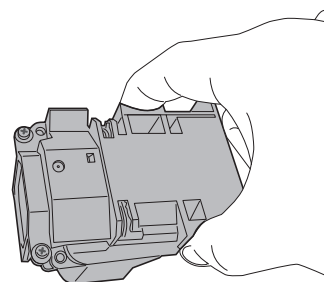
- Refer to step 3) of “Clean the air filter” (➔ page 102).

### Lamp unit

The lamp unit, ET-LAL600 is consumable and you must replace it regularly. It is recommended that a qualified technician carry the lamp unit replacement. Consult with an Authorized Service Center.

### Note on lamp unit replacement

- Handle the lamp unit with special care as the lamp is made of glass. Dropping or giving it a shock may cause it to burst or damaged.
- The lamp contains mercury. If you wish to discard the used lamp, please contact your local authorities or dealer and ask for the correct method of disposal.
- Prepare a Phillips-head screwdriver.
- When replacing the lamp unit, be sure to hold it by the handle.
- Hold the lamp unit horizontally to prevent broken pieces from scattering. When the projector is mounted in the ceiling, do not work directly under the projector or put your face close to the projector. Pull out the lamp vertically




### Note

- Prior to replacing the lamp unit, allow it to cool down to prevent the risk of burns, damage and other hazards.
- Do not attempt replacement of an unauthorized lamp unit.
- The model Nos. of the accessories and the parts sold separately are subject to change without notice.

**Lamp unit replacement time**

When the lamp has expired, the brightness may decrease over time. 4 000 hours of use is a rough guide of the replacing time and that might be shortened due to usage conditions, specifications of the lamp unit or environmental conditions. You can check the duration of usage time by checking **LAMP RUNTIME** in the **PROJECTOR SETUP** menu. Do not use a lamp unit over 5 000 hours. Failure to observe this may result in explosion of the lamp.

	ON-SCREEN DISPLAY	LAMP indicator
<b>3 800 hours</b>	<div data-bbox="507 398 890 506" style="border: 1px solid black; padding: 5px; text-align: center;">                     REPLACE LAMP                 </div>	<div data-bbox="1187 376 1331 524" style="text-align: center;"> <b>LAMP</b>   </div>
<b>4 000 hours</b>	Display <b>"REPLACE LAMP"</b> at the upper left of the screen, and it will stay until you respond. The power is turned off automatically in 10 minutes.	Illuminates red, even in the standby mode.

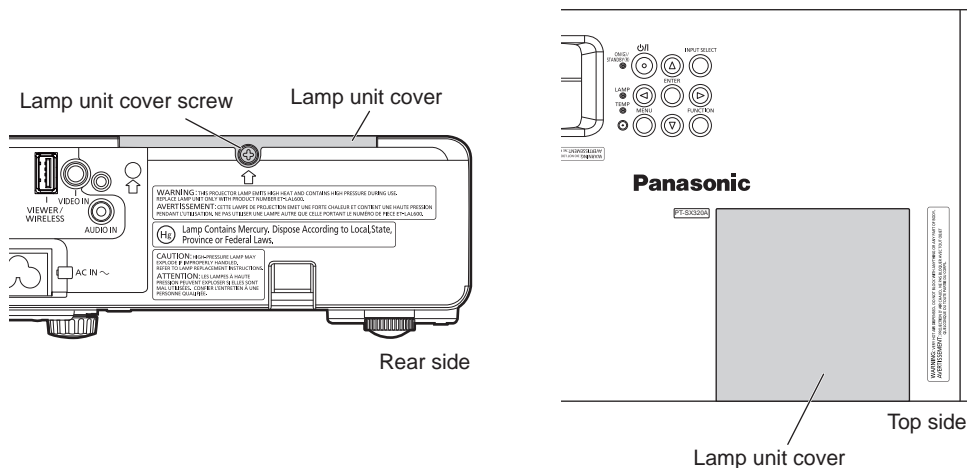
**Note**

- The guide time, 4 000 hours, is a rough estimate based on certain conditions and is not a guaranteed time.

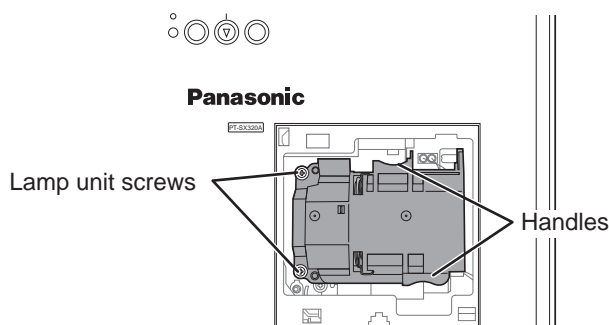


### Lamp replacement procedure

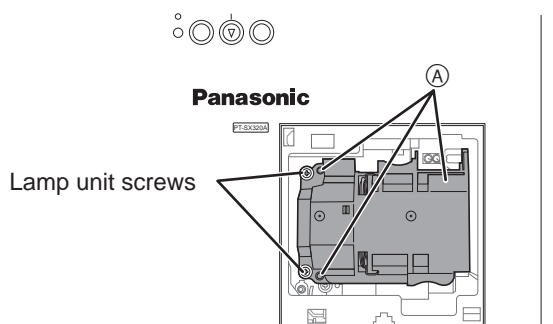
- When the projector is mounted in the ceiling, do not work directly under the projector or put your face close to the projector.
  - Be sure to install the lamp unit and attach the lamp unit cover securely.
- 1) Disconnect the power plug from the wall outlet according to “Switching off the projector” (➔ page 39), wait for at least 1 hour and check the bottom if the lamp unit has cooled.
  - 2) Use a Phillips-head screwdriver to loosen the 1 lamp unit cover screw on the back of the projector until the screw loosens, then to the rear slide slightly and remove the lamp unit cover.



- 3) Use a Phillips-head screwdriver to loosen the 2 lamp unit screws. Pull the used lamp unit gently from the projector.



- 4) Press in the unused lamp unit until it clicks and make sure the unit is installed securely. Tighten the 2 lamp unit screws securely with a Phillipshead screwdriver. During insertion, particularly press the (A) portion securely.

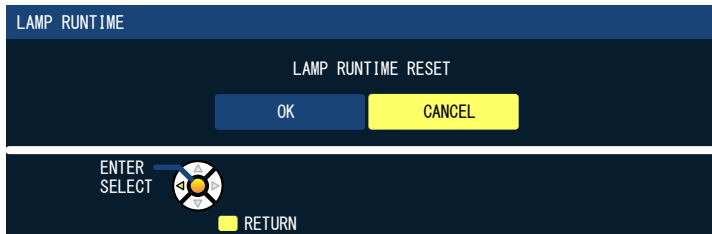


- 5) Attach the lamp unit cover and tighten the 1 lamp unit cover screw securely with a Phillips-head screwdriver.
- 6) Connect the power cord to a wall outlet.
- 7) Press the POWER button to begin projection.

#### Note

- If **INITIAL START UP** in the **PROJECTOR SETUP** menu is set to **ON**, the projector starts projecting when the power cord is connected to a wall outlet. (➔ page 71)

- 8) Press the **«MENU»** button on the remote control or the control panel.
  - The main menu screen appears.
- 9) Press **▲▼** to select [PROJECTOR SETUP] and press the **«ENTER»** button.
  - The [PROJECTOR SETUP] screen is displayed.
- 10) Press **▲▼** to select [LAMP RUNTIME].
- 11) Press and hold the **«ENTER»** button for approximately 3 seconds.
  - The [LAMP RUNTIME RESET] screen is displayed.



- 12) Press **◀▶** to select [OK] and press the **«ENTER»** button.
- 13) Press the power **«ϕ/|»** button.
- 14) After the lamp goes off, projection stops and the **<ON(G) / Standby(R)>** indicator lit red. Disconnect the power plug. The lamp runtime has been reset to "0".

#### Note

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- If any button other than the Power **«ϕ/|»** button is pressed, the **LAMP RUNTIME** screen disappears and the lamp runtime is not reset. (Repeat from step 8 again).

# Troubleshooting

Review the following points. For details, see the corresponding pages.

Problems	Points to be checked	Page
<b>Power does not turn on.</b>	• Is the power plug firmly inserted into the outlet?	—
	• Is the wall outlet supplying electricity?	—
	• Have the circuit breakers tripped?	—
	• Is the lamp indicator <LAMP> or the temperature indicator <TEMP> lit or blinking?	101
	• Is the lamp cover attached securely?	105
<b>No image appears.</b>	• Are connections to external devices correctly performed?	30
	• Is the input selection setting correct?	40
	• Is the [BRIGHTNESS] adjustment setting at a minimum?	52
	• Is the external device that is connected to the projector working properly?	—
	• Is the AV mute function in use?	42, 69
<b>Image is fuzzy.</b>	• Is the lens focus set correctly?	41
	• Is the projection distance appropriate?	28
	• Is the lens dirty?	17
	• Is the projector installed perpendicular to the screen?	—
<b>Color is pale or grayish.</b>	• Is [COLOR] or [TINT] adjusted correctly?	53
	• Is the external device connected to the projector adjusted correctly?	—
	• Is the RGB cable damaged?	—
<b>Audio is not output.</b>	• Is the external device connected correctly to the audio input terminal?	23
	• Is [MUTE] in [AUDIO SETTING] set to [ON]?	74
	• Is the audio input selection in [AUDIO SETTING] set correctly?	75
<b>Remote control does not respond.</b>	• Are the batteries depleted?	—
	• Is the polarity of the batteries set correctly?	24
	• Are there any obstructions between the remote control and the remote control signal receiver of the projector?	21
	• Is the remote control being used beyond its effective operation range?	21
	• Are other forms of light, such as fluorescent light, affecting the projection?	21
	• Is the [REMOTE CONTROLLER] setting in [CONTROL DEVICE SETUP] set to [DISABLE]?	79
	• Is the ID number setting operation correct?	46
<b>Buttons on the control panel do not operate.</b>	• Is the [CONTROL PANEL] setting in [CONTROL DEVICE SETUP] set to [DISABLE]?	79
<b>Image does not display correctly.</b>	• Is there a problem with the video tape or other image sources?	—
	• Is a signal which is not compatible with the projector being input?	112
<b>Image from a computer does not appear.</b>	• Is the cable too long? (For D-Sub cables, the cable length should be 10 m (32'10") or shorter.)	—
	• Is the external video output on the laptop computer set correctly? (Ex.: The external output settings may be switched by pressing the "Fn" + "F3" or "Fn" + "F10" simultaneously. Since the method varies depending on the computer type, refer to the user manual provided with your computer.)	—
<b>Video from HDMI compatible device does not appear or it appears jumbled.</b>	• Is the HDMI cable connected securely?	30
	• Turn off and on the power of the projector and the external device.	—
	• Is a signal which is not compatible with the projector being input?	112
<b>Audio from HDMI compatible device does not appear.</b>	• Set to the linear PCM audio for the connected devices.	—

## Attention

- If problems persist even after checking the preceding points, consult your dealer.

# Chapter 7 Appendix

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This chapter describes specifications for the projector.

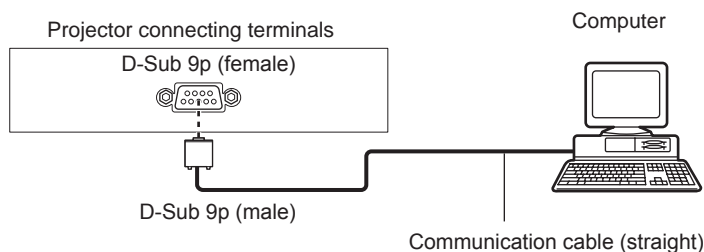
# Technical information

## <SERIAL IN> terminal

The <SERIAL IN> terminal of the projector conforms with RS-232C so that the projector can be connected to and controlled from a computer.

### Connection

#### ■ When connecting directly



### Note

- When [STANDBY MODE] is set to [ECO], the projector cannot be controlled during standby.

### Pin assignments and signal names

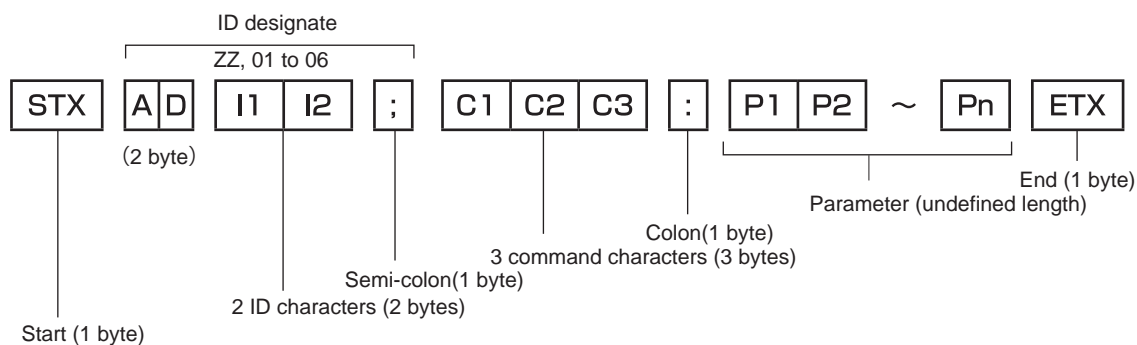
D-Sub 9-pin (female) Outside view	Pin No.	Signal name	Details
	(1)	—	NC
	(2)	TXD	Transmitted data
	(3)	RXD	Received data
	(4)	—	NC
	(5)	GND	Earth
	(6)	—	NC
	(7)	CTS	Connected internally
	(8)	RTS	
	(9)	—	NC

### Communication conditions (Factory default)

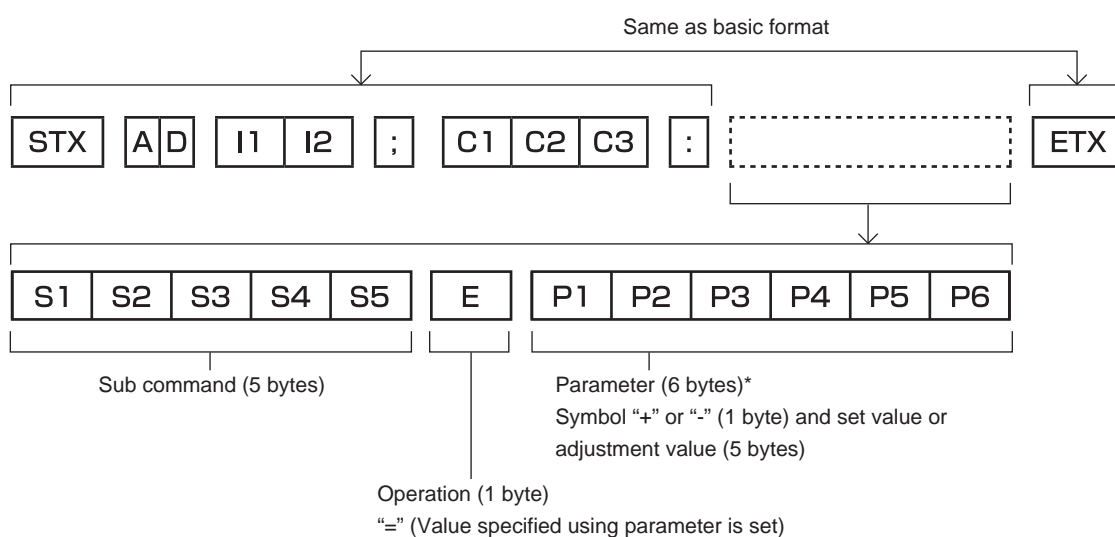
Signal level	RS-232C-compliant
Sync. method	Asynchronous
Baud rate	9 600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
X parameter	None
S parameter	None

## Basic format

Transmission from the computer starts with STX, then the ID, command, parameter, and ETX are sent in this order. Add parameters according to the details of control.



## Basic format (has subcommands)



\*1 When transmitting a command which does not need a parameter, an operation (E) and parameter are not necessary.

## Attention

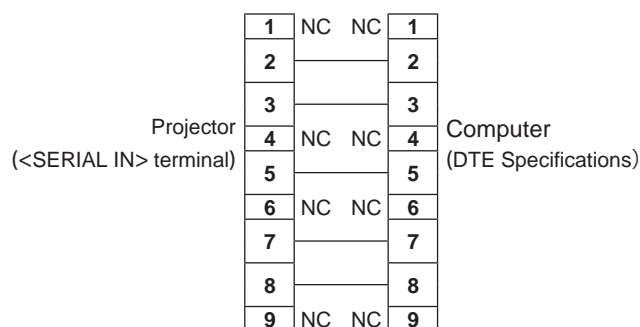
- If a command is transmitted after the lamp starts illuminating, there may be a delay in response or the command may not be executed. Try sending or receiving any command after 60 seconds.
- When transmitting multiple commands, be sure to wait until 0.5 seconds has elapsed after receiving the response from the projector before sending the next command. When transmitting a command which does not need a parameter, a colon (:) is not necessary.

## Note

- If a command cannot be executed, the "ER401" response is sent from the projector to the computer.
- If an invalid parameter is sent, the "ER402" response is sent from the projector to the computer.
- ID transmission in RS-232C supports ZZ (ALL) and 01 to 06.
- If a command is sent with a specified ID, a response will be sent to the computer only in the following cases.
  - It matches the projector ID
  - When [PROJECTOR ID] (➔ page 70) on the projector is [ALL]
- STX and ETX are character codes. STX shown in hexadecimal is 02, and ETX shown in hexadecimal is 03.

## Cable specification

When connected to a computer



## Control command

The following table lists the commands that can be used to control the projector using a computer.

## ■ Projector control command

Command	Details	Parameter/response string	Remark (parameter)
PON	Power on	—	To check if the power is on, use the “Power query” command.
POF	Power standby		
QPW	Power query	000 001	STANDBY Power on
IIS	Switching the input signal	VID RG1 HD1 NWP MV1	VIDEO COMPUTER HDMI NETWORK MEMORY VIEWER
AUU	Volume up		
AUD	Volume down		
Q\$L	Lamp cumulative runtime query	1	Returned with 0 to 99999
OSH	AV mute control	0	AV mute function off
QSH	AV mute status query	1	AV mute function on
Q\$\$	Lamp condition query	0 1 2 3	Stand-by Lamp ON control active Lamp ON Lamp OFF control active
VSE	Aspect ratio switch	0 1 2 5 6	AUTO NORMAL WIDE NATIVE FULL
QS1	Aspect ratio settings query	9 10	H FIT V FIT

## ■ Projector control command (with sub command)

Command	Sub command	Details	Remark
VXX	RYC11	COMPUTER1 input setting	+00000=RGB/YPbPr, +00001=Y/C

## [MENU LOCK PASSWORD] operations

V [ Á ããá ^Á [ ^!Á æ • , [ !ã& [ } ^ |Á [ ^!Áã dã ^ q !È

## List of compatible signals

The following table specifies the video signals compatible with the projector.

• Symbols that indicate formats are as follows.

- V: VIDEO, Y/C
- R: RGB
- Y: YC<sub>B</sub>CR/YP<sub>B</sub>PR
- H: HDMI

Mode	Display resolution (dots)	Scanning frequency		Dot clock frequency (MHz)	Format	Plug and play*1	
		Horizontal (kHz)	Vertical (Hz)			COMPUTER	HDMI
"NTSC/NTSC4.43/ PAL-M/PAL60"	720 x 480i	15.7	59.9	—	V	—	—
PAL/PAL-N/SECAM	720 x 576i	15.6	50.0	—	V	—	—
525 (480)/60i	720 x 480i	15.7	59.9	13.5	R/Y	—	—
625 (576)/50i	720 x 576i	15.6	50.0	13.5	R/Y	—	—
525 (480)/60i	720(1440) x 480i <sup>2</sup>	15.7	59.9	27.0	H	—	—
625 (576)/50i	720(1440) x 576i <sup>2</sup>	15.6	50.0	27.0	H	—	—
525 (480)/60p	720 x 480	31.5	59.9	27.0	R/Y/H	—	✓
625 (576)/50p	720 x 576	31.3	50.0	27.0	R/Y/H	—	✓
750 (720)/60p	1280 x 720	45.0	60.0	74.3	R/Y/H	—	✓
750 (720)/50p	1280 x 720	37.5	50.0	74.3	R/Y/H	—	✓
1125 (1080)/60i	1920 x 1080i	33.8	60.0	74.3	R/Y/H	—	✓
1125 (1080)/50i	1920 x 1080i	28.1	50.0	74.3	R/Y/H	—	✓
1125 (1080)/24p	1920 x 1080	27.0	24.0	74.3	R/Y/H	—	✓
1125 (1080)/24sF	1920 x 1080i	27.0	48.0	74.3	R/Y/H	—	—
1125 (1080)/25p	1920 x 1080	28.1	25.0	74.3	R/Y/H	—	—
1125 (1080)/30p	1920 x 1080	33.8	30.0	74.3	R/Y/H	—	—
1125 (1080)/60p	1920 x 1080	67.5	60.0	148.5	R/Y/H	—	✓
1125 (1080)/50p	1920 x 1080	56.3	50.0	148.5	R/Y/H	—	✓
640x400	640 x 400	31.5	70.1	25.2	R/H	—	—
	640 x 400	37.9	85.1	31.5	R/H	—	—
640x480	640 x 480	31.5	59.9	25.2	R/H	✓	✓
	640 x 480	35.0	66.7	30.2	R/H	—	—
	640 x 480	37.9	72.8	31.5	R/H	✓	✓
	640 x 480	37.5	75.0	31.5	R/H	✓	✓
	640 x 480	43.3	85.0	36.0	R/H	—	—
800 x 600	800 x 600	35.2	56.3	36.0	R/H	✓	✓
	800 x 600	37.9	60.3	40.0	R/H	✓	✓
	800 x 600	48.1	72.2	50.0	R/H	✓	✓
	800 x 600	46.9	75.0	49.5	R/H	✓	✓
	800 x 600	53.7	85.1	56.3	R/H	—	—



Mode	Display resolution (dots)	Scanning frequency		Dot clock frequency (MHz)	Format	Plug and play*1	
		Horizontal (kHz)	Vertical (Hz)			COMPUTER	HDMI
832 x 624	832 x 624	49.7	74.6	57.3	R/H	✓	✓
1024 x 768	1 024 x 768	39.6	50.0	51.9	R/H	—	—
	1 024 x 768	48.4	60.0	65.0	R/H	—	—
	1 024 x 768	56.5	70.1	75.0	R/H	✓	✓
	1 024 x 768	60.0	75.0	78.8	R/H	✓	✓
	1 024 x 768	68.7	85.0	94.5	R/H	—	—
1152 x 864	1 152 x 864	53.7	60.0	81.6	R/H	—	—
	1 152 x 864	67.5	75.0	108.0	R/H	—	—
	1 152 x 864	77.1	85.0	119.7	R/H	—	—
1152 x 870	1 152 x 870	68.7	75.1	100.0	R/H	✓	✓
1280 x 720	1 280 x 720	37.1	49.8	60.5	R/H	—	—
	1 280 x 720	44.8	59.9	74.5	R/H	—	—
1280 x 768	1 280 x 768	60.3	74.9	102.3	R/H	—	—
	1 280 x 768	68.6	84.8	117.5	R/H	—	—
1280 x 800	1 280 x 800	41.3	50.0	68.0	R/H	—	—
	1 280 x 800	49.7	59.8	83.5	R/H	✓ <sup>*4</sup>	✓ <sup>*4</sup>
	1 280 x 800	62.8	74.9	106.5	R/H	—	—
	1 280 x 800	71.6	84.9	122.5	R/H	—	—
1280 x 960	1 280 x 960	60.0	60.0	108.0	R/H	—	—
1280 x 1024	1 280 x 1 024	64.0	60.0	108.0	R/H	—	—
	1 280 x 1 024	80.0	75.0	135.0	R/H	—	—
	1 280 x 1 024	91.1	85.0	157.5	R/H	—	—
1366 x 768	1 366 x 768	39.6	49.9	69.0	R/H	—	—
	1 366 x 768	47.7	59.8	85.5	R/H	—	—
1400 x 1050	1 400 x 1 050	65.2	60.0	122.6	R/H	—	—
	1 400 x 1 050	65.3	60.0	121.8	R/H	—	—
	1 400 x 1 050	82.3	74.9	156.0	R/H	—	—
1440 x 900	1 440 x 900	55.9	59.9	106.5	R/H	—	—
1600 x 900	1 600 x 900	46.4	49.9	96.5	R/H	—	—
	1 600 x 900	55.9	60.0	119.0	R/H	—	—
1600 x 1200	1 600 x 1 200	75.0	60.0	162.0	R/H	✓	✓
1680 x 1050	1 680 x 1 050	54.1	50.0	119.5	R/H	—	—
	1 680 x 1 050	65.3	60.0	146.3	R/H	—	—
1920 x 1080	1 920 x 1 080	55.6	49.9	141.5	R/H	—	—
	1 920 x 1 080 <sup>*3</sup>	66.6	59.9	138.5	R/H	—	—
1920 x 1200	1 920 x 1 200	61.8	49.9	158.3	R/H	—	—
	1 920 x 1 200 <sup>*3</sup>	74.0	60.0	154.0	R/H	—	—

\*1 Signals with ✓ in the Plug and play columns are signals described in EDID (extended display identification data) of the projector. A signal, which has no ✓ in the Plug and play columns but has an entry in the Format column, can be input. For signals without ✓ in the Plug and play columns, resolution may not be selected in the computer even though the projector supports them.

\*2 Pixel-Repetition signal (dot clock frequency 27.0 MHz) only

\*3 VESA CVT-RB (Reduced Blanking)-compliant

\*4 Only for PT-SW280A

### Note

- The number of display dots for PT-SX320A/PT-SX300A is 1 024 x 768. The number of display dots for PT-SW280A is 1 280 x 800. A signal with a different resolution is converted to the number of display dots.
- The "i" at the end of the resolution indicates an interlaced signal.
- When interlaced signals are connected, flickering may occur on the projected image.
- Even the above signals exist, some image signals that are recorded in special method may not be displayed.

# Specifications

The specifications of the projector are as follows.

<b>Power supply</b>		100 V - 240 V ~ (100 V - 240 V alternating current), 50 Hz/60 Hz	
<b>Power consumption</b>	<b>Projecting</b>	295W (3.5 A - 1.3 A)	
	<b>In standby mode</b>	When [STANDBY MODE] of [ECO MANAGEMENT] is set to [ECO]: 0.5 W When [STANDBY MODE] of [ECO MANAGEMENT] is set to [NORMAL], and [MUTE] in [AUDIO SETTING] is set to [ON]: 8 W	
<b>LCD panel</b>	<b>Size</b>	PT-SX320A, PT-SX300A	1.60 cm (0.63" ) (aspect ratio 4:3)
		PT-SW280A	1.50 cm (0.59" ) (aspect ratio 16:10)
	<b>Display system</b>	Translucent screen LCD panel 3 panels, 3 primary color system	
	<b>Drive system</b>	Active matrix	
	<b>Number of pixels</b>	PT-SX320A, PT-SX300A	786 432 pixels (1 024 x 768 dots) x 3 panels
PT-SW280A		1 024 000 pixels (1 280 x 800 dots) x 3 panels	
<b>Lens</b>		Manual zoom (1.2 x)/Manual focus F = 1.65 - 1.93 f = 18.53 mm - 22.18 mm	
<b>Luminous lamp</b>		230 W, UHM lamp	
<b>Light output<sup>1</sup></b>	PT-SX320A	3 200 lm	
	PT-SX300A	3 000 lm	
	PT-SW280A	2 800 lm	
<b>Contrast ratio<sup>1</sup></b>		2 000:1 (when [PICTURE MODE] is set to [DYNAMIC], [LAMP POWER] is set to [NORMAL], and [AUTO POWER SAVE] is set to [OFF])	
<b>Color system</b>		7 standards (NTSC/NTSC4.43/PAL/PAL-N/PAL-M/SECAM/PAL60)	
<b>Projected image size</b>		33 type - 300 type	
<b>Screen aspect ratio</b>	PT-SX320A, PT-SX300A	4:3	
	PT-SW280A	16:10	
<b>Projection method</b>		[FRONT/CEILING], [FRONT/DESK], [REAR/CEILING], [REAR/DESK]	
<b>Speaker</b>		4 cm x 2 cm, x 1	
<b>Max. effective audio output</b>		1 W (monaural)	
<b>Power cord length</b>		2 m (78-19/25")	
<b>Outer case</b>		Molded plastic	
<b>Dimensions</b>	<b>Width</b>	307 mm (12-3/32")	
	<b>Height</b>	69 mm (3-14/50") (excluding the projecting parts)	
	<b>Depth</b>	210 mm (8-17/25")	
<b>Weight</b>		Approx.2.3 kg (5.1 lbs.) <sup>2</sup>	
<b>Operating environment</b>	<b>Operating environment temperature<sup>3</sup></b>	0 °C (32 °F) - 40 °C (104 °F) (Elevation: below 1 400 m (4 593')) 0 °C (32 °F) - 35 °C (95 °F) (Elevation: 1 400 m (4 593') - 2 700 m (8 858'))	
	<b>Operating environment humidity</b>	20 % - 80 % (No condensation)	

<b>Remote control</b>	<b>Power supply</b>	DC 3 V (AAA/R03 or AAA/LR03 battery x 2)
	<b>Operating range</b>	Approx. 7 m (22'11-5/8") (when operated directly in front of signal receiver)
	<b>Weight</b>	63 g (2.22 ozs.) (including batteries)
	<b>Dimensions</b>	Width: 44 mm (1-23/32"), Length: 105 mm (4-1/8"), Height: 20.5 mm (13/16")

\*1 Measurement, measuring conditions and method of notation all comply with ISO/IEC 21118:2012 international standards.

\*2 Average value. Weight varies for each product.

\*3 If the [PROJECTOR SETUP] menu → [LAMP POWER] is set to [NORMAL], [LAMP POWER] changes to [ECO] forcibly to protect the projector when the operating environment temperature becomes 35 °C (95 °F) or higher.

### Note

- The model numbers of accessories and optional accessories are subject to change without prior notice.

### Terminal

<b>«COMPUTER IN» terminal</b>	1 set high-density D-Sub 15 p (female) <b>RGB signal</b> 0.7 V [p-p] 75 Ω (SYNC ON GREEN: 1.0 V [p-p] 75 Ω) SYNC/HD TTL high impedance, automatic positive/negative polarity compatible VD TTL high impedance, automatic positive/negative polarity compatible (The SYNC/HD and VD terminals do not support 3 value SYNC.) <b>YPbPr signal</b> Y: 1.0 V [p-p] including synchronization signal, PbPr: 0.7 V [p-p] 75 Ω <b>Y/C signal</b> Y: 1.0 V [p-p], C: 0.286 V [p-p] 75 Ω
<b>«VIDEO IN» terminal</b>	1 set, pin jack 1.0 V [p-p] 75 Ω
<b>«HDMI IN» terminal</b>	1 set, HDMI 19 pin, HDCP compatible, Deep Color compatible <b>Audio signal</b> Linear PCM (Sampling frequency: 48 kHz/44.1 kHz/32 kHz)
<b>«AUDIO IN» terminal</b>	1 sets, M3 stereo mini jack 0.5 V [rms], input impedance 22 kΩ or more
<b>«SERIAL IN» terminal</b>	1 set, D-Sub 9 p, RS-232C compliant, for computer control
<b>«VIEWER/WIRELESS» terminal</b>	USB connector (type A x 1, output DC 5 V, 500 mA maximum) Memory Viewer / Wireless module (Model No.: ET-WML100E) compatible

### Applicable scanning frequency

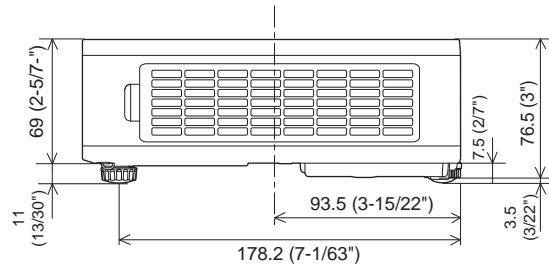
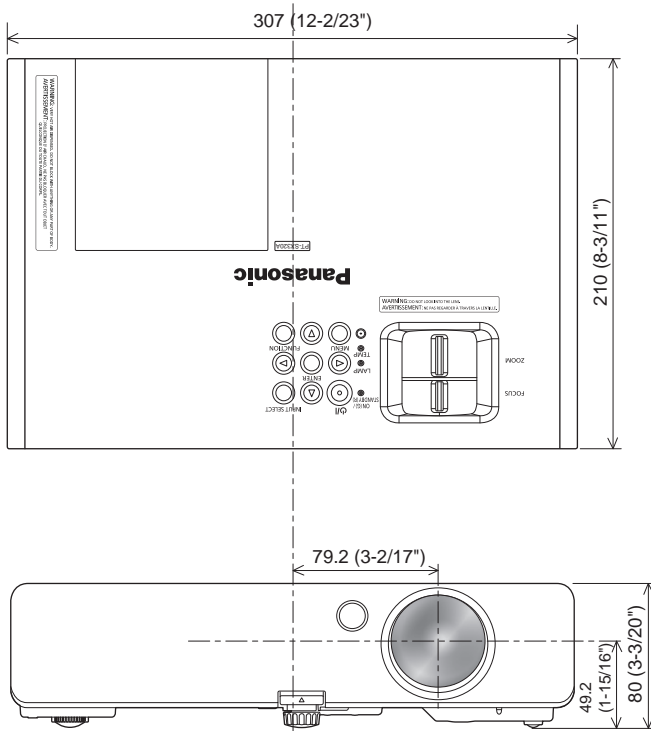
Refer to “List of compatible signals” (➔ page 112) for the types of video signals that can be used with the projector.

<b>For video signal</b>	Horizontal: 15.73 kHz Vertical : 59.94 Hz, Horizontal: 15.63 kHz Vertical : 50 Hz
<b>For Y/C signal</b>	Horizontal: 15.73 kHz Vertical : 59.94 Hz, Horizontal: 15.63 kHz Vertical : 50 Hz
<b>For RGB signal</b>	<ul style="list-style-type: none"> <li>• Displayable resolution: 640 x 400 to 1 920 x 1 200</li> <li>• Dot clock frequency: 162 MHz or less</li> </ul>
<b>For YCbCr/YPbPr signal</b>	<ul style="list-style-type: none"> <li>• Displayable resolution: 480i/576i to 1 920 x 1 080</li> <li>• Dot clock frequency: 148.5 MHz or less</li> </ul>
<b>For HDMI signal</b>	<ul style="list-style-type: none"> <li>• Displayable resolution for movie-based signals: 480i/576i<sup>*1</sup> to 1 920 x 1 080</li> <li>• Displayable resolution for still image signals: 640 x 400 to 1 920 x 1 200 (non-interlaced)</li> <li>• Dot clock frequency: 25 MHz - 162 MHz</li> </ul>

\*1 Pixel-Repetition signal (dot clock frequency 27.0 MHz) only

# Dimensions

Unit: mm

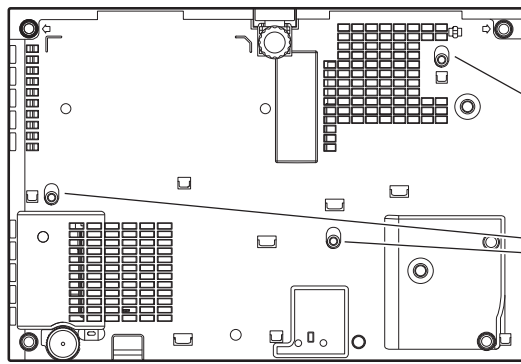


\* Actual dimensions may differ depending on the product.

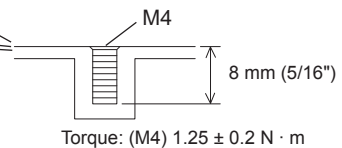
## Precautions for Attaching Ceiling Mount Bracket

- When installing the projector to a ceiling, be sure to use the specified optional Ceiling Mount Bracket as the following: ET-PKB2 (Ceiling Mount Bracket).
- When installing the projector, attach the drop-prevention wire supplied with the the Ceiling Mount Bracket.
- Ask a qualified technician to do the installation work such as mounting the projector on the ceiling.
- Panasonic takes no responsibility for any accident, damage, damages to the projector resulting from use of a ceiling mount bracket not manufactured by Panasonic, optional Ceiling Mount Bracket combinations not specified , installation method not described in installation manual, optional accessories not specified or the inappropriate choice of location for installation, even if the warranty period of the projector has not expired.
- Unused products must be removed promptly by a qualified technician.
- Use a torque screwdriver or Allen torque wrench to tighten bolts to their specified tightening torques. Do not use electric screwdrivers or impact screwdrivers.
- Read the Installation Instructions for the Ceiling Mount Bracket for details.
- The model numbers of accessories and optional accessories are subject to change without prior notice.

Bottom view



Model No. of Ceiling Mount Bracket:  
ET-PKB2 (Ceiling Mount Bracket)



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